MAY • 1960

FIREMEN

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Official NFPA Calendar Photo for 1961 — *see page 7*

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Montreal — Host to NFPA - - - - - - - page 8

Tracheotomies and Laryngectomies - - page 10

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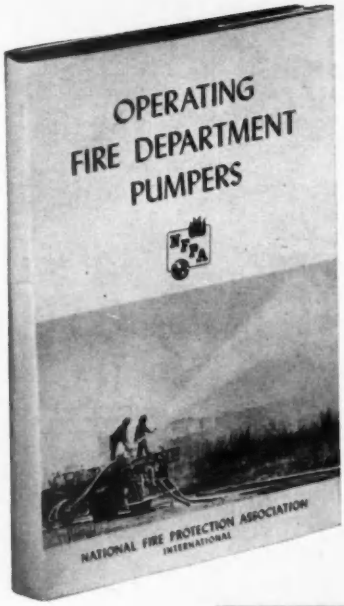

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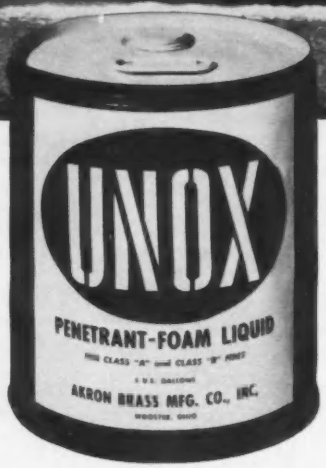

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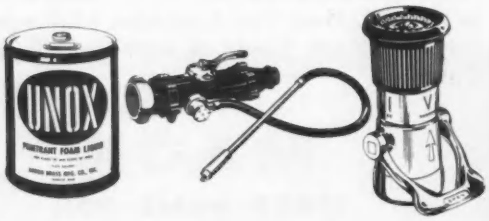

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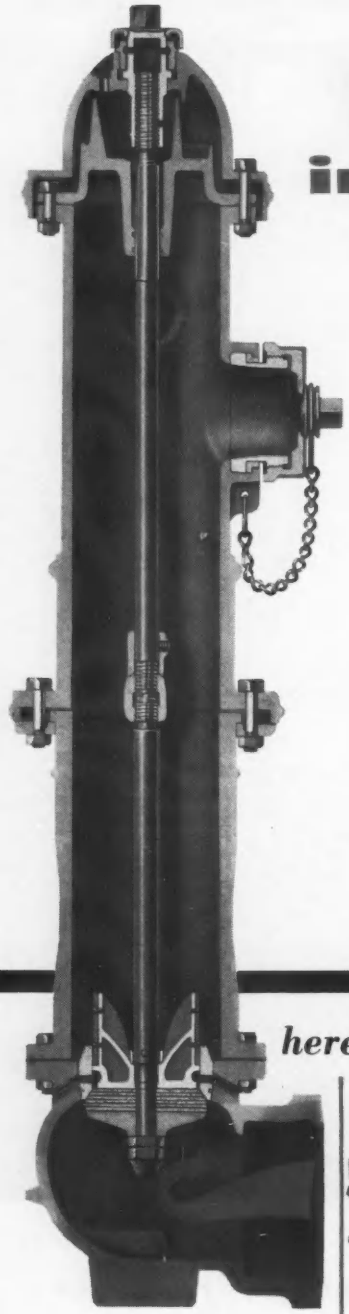

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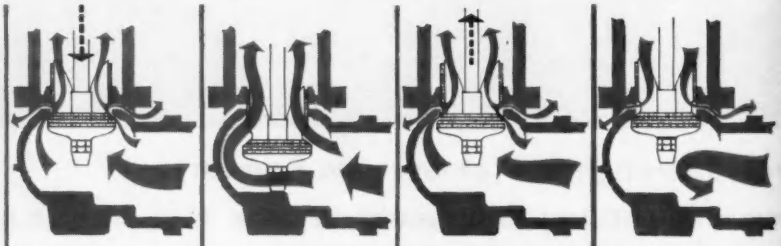

1 Main valve fully closed. Barrel dry.

2 Hydrant opening. During first few turns of operating nut, full water pressure flushes drain ports.

3 Hydrant fully opened. Drain ports closed by sealing surfaces on main valve guides.

4 Hydrant closing. Drain ports again force-flushed by full water pressure during last few turns of operating nut.

5 Hydrant fully closed. Water draining from barrel through open ports.

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FIREMEN

Volume 27 Number 5

A monthly magazine published for the fire service members of the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.

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Artist William C. "Bill" Griffith is well acquainted with the fire service. For a number of years he has created the paintings chosen by NFPA to illustrate its official calendar, published annually by Brown and Bigelow, St. Paul, Minnesota.

Bill Griffith's skill with the brush and attention to detail is evident in the illustration on this month's cover of FIREMEN magazine. This four-color painting of a fire company "making up" in the early morning is featured on the NFPA calendar for 1961 now being distributed. As in years past, the calendars have space for imprinting the name of a fire department and telephone emergency numbers. They are available in four sizes: a 29 x 43½-in. "jumbo" size, 18 x 27 and 14 x 21-in. sizes, and a special 7¾ x 14-in. calendar for general distribution to dwellings. The larger calendars are primarily for business and mercantile display.

Across the United States a number of individual businessmen sponsor the purchase of these calendars for their fire departments and imprinting usually includes the name of the fire department and the name of the sponsor. In addition to the regular listing of months and days, a special "split" calendar pad can be obtained to tie in distribution of the calendar with Fire Prevention Week. For example, for the coming year the "split" calendar pad will show the months from October, 1960, through September, 1961. The regular pad, of course, shows the months of next year from January through December. Additional information can be obtained by writing to Brown and Bigelow, St. Paul 4, Minnesota.

Warm weather brings considerable increase in fire service training activities and meetings of state, county and local fire service associations. Traditionally, such get-togethers have played an important role in the over-all growth and betterment of the fire service. It would be difficult to measure just how much any one training program or meeting would improve an individual fire officer or fire fighter, but it can be stated fairly that a man who attends such a gathering, with the serious intent of learning something, probably will come home with some knowledge that will improve his own skills or the over-all operation of his department.

Certainly, well-planned and conducted training programs offer many important new ideas and techniques for those attending. Even the casual meeting of a small fire service association can offer something of value; perhaps simply the interchange of reports of how various fire departments are handling current problems will be enough to help at least one fire service member to solve a serious problem in his own community. Through the years such discussion and exchange of ideas have been a tangible force in effecting progress and improvement in the fire service. It is a healthy sign when a fire chief and his men look beyond the borders of their own community to see how progress is being made elsewhere, and, when they learn something that will improve their own efficiency and service to the community, make prompt change in their operating procedures.

From now until Fall, there will be many meetings of importance to the fire service. In this issue (pages 30 and 34) and in coming issues, the dates and meeting places will be listed. Look over these lists and pick out the training schools and meetings you can attend. And, when you go, ask some questions and get the information you need. Ultimately, the improvement of your fire department, and of the fire service as a whole, rests on your desire for improvement as an individual fire service member.

WARREN Y. KIMBALL, Managing Editor; PAUL R. LYONS, Editor; HENRY S. GERE, Advertising Manager; DIANNE KOFMAN, Editorial Assistant; SHIRLEY TOBEY, Fire Service Department; VIRGINIA STILES, Advertising Department.

MONTREAL — HOST TO NFPA

Queen Elizabeth Hotel Serves as Headquarters for 64th NFPA Annual Convention — May 16-20

As announced previously, the NFPA holds its 64th annual convention in Montreal, Quebec, this month. The Queen Elizabeth Hotel has been chosen as headquarters for the five-day meeting and NFPA members are expected to attend from all over North America, Japan, Australia, England and Germany. The tentative program of the meeting appeared in the April issue of NFPA *Fire News*.

Many subjects of interest will be covered each day, but fire service personnel might want to give particular attention to the simultaneous meetings of the Aviation Seminar and the Fire Marshals' Section on Monday, May 16, the Second General Session on Tuesday afternoon (prepared especially for the fire service), and the Final General Session on Friday morning.

This last session will feature the world premiere of a sensational film on school fires, produced by the Los Angeles Fire Department, and discussion of the new revision of sections of the Building Exits Code pertaining to schools. Everyone attending the 64th convention is urged to be at this important session.

IT IS customary for fire service members, who visit a city for the first time, to drop in on one or more fire stations, to get acquainted with the personnel of the local fire department and discuss mutual problems. The 64th NFPA Annual Convention in Montreal will provide good opportunity for such a visit and undoubtedly a number of fire chiefs and others from the United States will make the acquaintance of the officers and men of the Montreal Fire Department during the week. This brief summary of the history and present operations of the department may be of help.

The Fire Department

The Montreal Fire Department is commanded by Director Armand Durette who is directly responsible to the City Council through the Director of Municipal Departments and the Executive Committee of the city. As head of his department, Fire Director Durette is assisted by two deputy chiefs and four divisional chiefs. The city is divided into nine fire districts each of which is headed by a district chief.

The 1959 annual report of the department provides some interesting statistics on its operations. For example, last year fire fighters answered 15,797 emergency calls of all types (an increase of 589 calls over 1958). These calls included response to 5,579 actual fires (415 more than in the previous year). Altogether there were 26 multiple alarm fires in the city and the department also gave help to outside municipalities on 19 fire calls. In addition, of course, there were the bothersome false alarms — an increase of 404 above the previous year's record or a total of 4,968 in 1959.

Director Armand Durette of the Fire Department in Montreal, Quebec

The Montreal Fire Department carries out a good inspection program. Last year the fire prevention bureau conducted 37,247 inspections of mercantile buildings, multiple dwellings and industrial plants, then made 33,263 reinspections, in addition to 11,566 inspections of private dwellings and institutional buildings. It is inter-

Six new Thibault pumpers on Ford chassis delivered to the Montreal Fire Department last year.

esting to note that in addition to these inspected buildings there were 3,740 "absences," and out of a total of 15,346 inspections, the fire fighters were only refused entrance to buildings 40 times. Director Durette reports that this inspection program has improved public education in fire prevention and the department plans to increase this campaign during this year.

A recent article in the IAFF magazine *Fire Fighter* points out that the fire alarm division in Montreal is one of the best equipped in North America. With fire department headquarters, it is located in a large isolated building on the side of Mont Royal. There are 2,800 fire alarm street boxes connected with 85 circuits and over 1,100 automatic boxes.

Some of the highlights of the history of the Montreal Fire Department are outlined in the following section.

A Two-Century History

The first Montreal fire defence organization was activated, under the French regime, by Intendant Hocquart somewhere around 1735. It consisted of a "bucket brigade" with the personnel selected from workers of the building trades. Later, in 1783, shortly after England took over, a new organization, bearing the name of "Fire Club" was created by merchants to protect their property against fire. Although its members were more directly interested, it remained a "bucket brigade." A volunteer firemen's association succeeded the Fire Club in 1824. It was equipped with hand fire engines manned by 100 volunteers distributed in three companies.

In 1841, the City Council appointed a permanent Fire Engineer to take charge of the Firemen's Association which became, at the same time, the "Montreal Fire Brigade" (volunteer). The men were paid $20.00 a year.

Following a number of severe fires during the 1850's, the Montreal City Council decided to create a permanent fire department on April 30, 1863. However, a certain number of volunteers kept on fighting fires until 1867.

At the time of its creation, the permanent fire department had eight fire stations housing ladder trucks and hand fire engines. The first steam fire engine was purchased a little later in 1871.

Men were kept on duty 24 hours a day, but were granted time off for meals which could be taken at home. This system remained in force until 1918 when the firemen's trade union asked for shorter hours.

The department then started to operate on a two-platoon system, men working 84 hours a week (7 days of 12 hours each — platoons alternating every week) and kept this system until 1943 when hours were cut to 72 a week. Since 1956, the department has operated on a working week of 56 hours. This is expected to be shortened again in the near future.

From a strength of 900 men in 1943, the total fire fighting personnel has now reached 1,900.

Now the City of Montreal has a population of 1,400,000 inhabitants and is protected by 48 fire stations housing 30 pumpers, 21 "booster" hose wagons, 15 aerial ladder trucks, 31 service ladder trucks, 10 salvage trucks, 2 rescue trucks, 25 chief's cars, 2 gasoline tanker trucks, 1 canteen truck, and scores of service trucks and reserve apparatus. The delivery of 2 new aerial ladder trucks and 4 pumpers is expected in the near future. Moreover, within the next five years, a few fire stations will be built to replace older ones.

The establishment of a new training centre is now under way and should be completed within a couple of years. Nevertheless, with the existing school facilities, the Department provides training to its own officers and men and also to firemen from suburban communities of Montreal.

The present Montreal Fire Director Armand Durette was appointed as a fireman on February 7, 1927. He was promoted to the rank of Lieutenant in 1943, Captain in 1946, District Chief in 1949, Division Chief in 1952, Deputy Director in 1955, and Director on September 2, 1959.

One of the fire stations recently built in the city. Older stations will be replaced in a modernization program.

SOME IMPORTANT WORDS ABOUT

TRACHEOTOMIES and LARYNGECTOMIES

Members of the St. Paul, Minnesota, Bureau of Fire Protection headed by Chief Frank E. Oberg, recently have given a great deal of attention to persons known as "laryngectomies." These persons have undergone surgery of the trachea and consequently may need a special form of artificial respiration in an emergency. As a consequence, the St. Paul Fire Department has issued the special training bulletin shown on these pages. Every fire department and rescue squad is urged to give attention to this special form of artificial respiration.

"The importance of information relating to this subject may be evidenced by the fact that there are over two hundred such people in the St. Paul area alone. A projection of this figure would indicate that, nationwide, there are many thousands of these cases . . .

"The entire treatise is based on a lecture by Dr. James A. Donaldson, M.D., Resident in Otolaryngology, Veterans' Hospital, Minneapolis, Minnesota, and has been approved by Dr. Jerome A. Hilger, Clinical Professor in Otolaryngology, University of Minnesota Medical School, Suite 444, Lowry Medical Arts Building, St. Paul, Minnesota. Final preparation of the treatise for incorporation into the training program of the St. Paul Fire Department was done by District Chief Reuben Schmugge, in charge of training, under the direction of Fire Chief Frank Oberg." — (*From the special training bulletin of the St. Paul, Minnesota, Fire Department* — Ed.)

TWO different operations involving the trachea are of interest to the fire department and to other emergency personnel. Victims of these operations warrant special consideration during resuscitation and manual artificial respiration.

Tracheotomy

A tracheotomy is a hole made in the trachea (windpipe) at the throat. This operation is performed in an emergency when a person's throat is blocked and ventilation can be achieved in no other way. It is also used to allow a patient to breathe during surgery on the larynx and other parts of the throat above the larynx. After surgery the patient can breathe either through the hole in the trachea or through his mouth and nose. This is only a temporary measure and after a period of time the tracheotomy is allowed to heal shut and the patient continues to breathe in the normal way.

If such a person stops breathing he can be given any of the accepted methods of manual artificial respiration. A mechanical resuscitator can be used either through the opening in the trachea or the mouth and nose. However, whichever opening is used, mouth and nose or hole in trachea, the other should be closed off or there will be inefficient ventilation. This is also true when mouth to mouth or mouth to trachea artificial respiration is applied. When a broken jaw has been wired shut, it may be necessary to cut the wires holding the jawbone so that the mouth can be opened and the obstruction removed, if no exchange can be made through the mouth and nose.

Laryngectomy

A laryngectomy may be performed when the patient has cancer of the throat or larynx (vocal cords and voicebox). In this operation the larynx is removed completely by surgery. The trachea is then turned to the front and terminates in an opening in the neck slightly above the breastbone. (Illustration 1.) A surgical tie-off is then made, completely sealing the mouth and throat from the trachea. After this operation the patient breathes entirely through the hole in the throat.

Because there is no longer any connection between the throat and the lungs, the victim cannot be resuscitated by mouth to mouth artificial respiration, or by using the resuscitator in the normal way over the mouth and nose. Any type of resuscitation used must be accomplished through the opening in the throat.

Illustration 2 shows the trachea as it normally appears. Illustration 3 shows the position of the trachea and the surgical tie-off in throat after a laryngectomy has been performed. After the operation, a laryngectomy tube (Illustrations 4 and 5) is inserted into the opening. The tube is worn for a month or so to keep the trachea open until the operation has completely healed. After this period the laryngectomy tube is not worn except by a very few persons. Illustration 4 shows the laryngectomy tube, which is really a tube within a tube, in the normal position for use. Illustration 5 shows the inside tube partly withdrawn.

If resuscitation is necessary and the laryngectomy tube is plugged, the inside tube may be removed and ventilation accomplished through the outer tube. In an emergency the whole laryngectomy tube may be withdrawn to accomplish ventilation. Some patients prefer to wear a cotton filter pad over the tube to keep out foreign materials. This can also be removed for resuscitation. After the surgery has healed, the male laryngectomy keeps foreign material out of the lungs by keeping his shirt collar buttoned over the trachea opening. The female laryngectomy usually wears a scarf or a decorative bib over the opening. It is necessary therefore to make certain, on any victim requiring resuscitation, that there is no opening in the throat. Resuscitation through the mouth and nose of a laryn-

Illustration 1

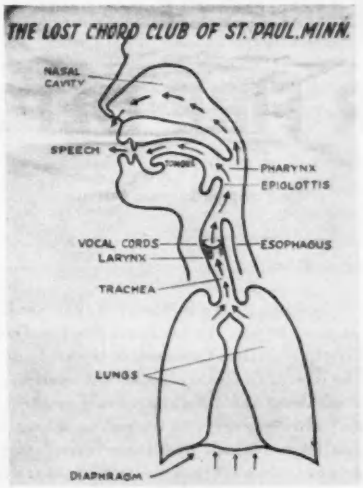


Illustration 2

Illustration 5

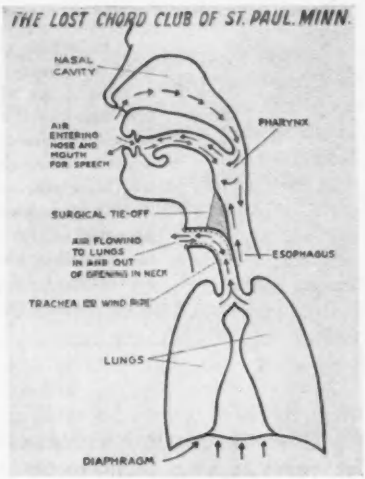


Illustration 3

Illustration 6

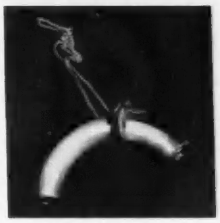


Illustration 4

gectomy is absolutely useless. Resuscitation must be made through the trachea opening.

Procedure to be Used for Resuscitation

On all victims requiring resuscitation, loosen the clothing at the throat and check all the way to the breastbone to discover if there is an opening. You cannot rely on watching for scars, because the scars of the laryngectomy operation soon disappear. All manual and mechanical methods of resuscitation can be used on a laryngectomy.

A. Manual Methods

1. Mouth to Trachea

Proceed as in mouth to mouth resuscitation. Place mouth over opening in trachea and breathe into victim. Avoid twisting of neck as this may partially block the opening. It is not necessary to close the victim's nose. Mouth to trachea resuscitation is more sanitary than the mouth to mouth application because most infections come from the nose and throat, and air coming directly from the lungs is more sterile. If direct contact repels you, you may place a handkerchief or gauze bandage over the opening. For these victims the mouth to trachea application is the most effective of the manual methods.

2. Back Pressure, Arm Lift and the Sylvester Systems

Use these systems the same as any other time but avoid twisting the neck. The back pressure arm lift method, can be applied by placing the victim's nose and chin in a shoe. Be sure to protect the laryngectomy opening from dirt and dust. This can be done with a handkerchief or with gauze.

B. Mechanical Methods

Both the E & J Resuscitator and MSA Pneolator can be used on these victims. The baby facepiece on the E & J, applied on a crosswise position at the trachea opening (Illustration 6), was found to be best suited for this purpose.

1. *Inhalator:* Proceed as with ordinary victim, placing facepiece crosswise over trachea opening.

2. *Resuscitation:* Check for obstructions. If laryngectomy tube is obstructed, simply remove it. If tube is not plugged, resuscitation can be accomplished over the tube. Proceed as with ordinary victim, placing facepiece crosswise over trachea opening. If facepiece were placed on laryngectomy's mouth, the air would enter his stomach and his stomach would begin to bulge.

3. *Aspiration:* Aspiration should be performed in the following manner: The catheter tube should be pinched shut while being inserted. It should be directed to one side and inserted until resistance is felt. While turning the tube, slowly start withdrawing it before releasing suction. This prevents the catheter tube from adhering to and tearing the lining of the bronchial tubes. If this does not entirely remove the obstruction, direct the catheter tube to the opposite side and aspirate it also. If an unconscious laryngectomy is discovered who has a crust-like formation over the trachea opening, it must be removed before resuscitation can take place. Upon removal of this crust formation, superficial bleeding may occur which is not at all dangerous.

HOW TO INTEREST MEMBERS OF

VOLUNTEER FIRE DEPARTMENTS

by Paul R. Lyons, Editor

The article on the following pages is directed, especially, to chiefs of small paid or volunteer fire departments. From inquiries received at NFPA and from entries to the NFPA Fire Prevention Contest, it seems that some form of activity "calendar" would be useful to these chiefs. We wish to stress that the activities mentioned in the different months are merely suggested; some chiefs may want to schedule these items in different months. When you read this article, we think you will agree that a small fire department can accomplish a great deal in the course of a year — in addition to its basic duty of extinguishing fire. As some of the top Contest entries show, a number of progressive fire departments follow similar schedules of activities to provide the best of service and protection to their communities. We would like to hear from readers who have comments on this schedule. If interest warrants, reprints will be made available.

ONE of the irritating problems encountered by the chiefs of some volunteer fire departments is the tendency of a few of their members to lose interest and enthusiasm in the department's work and objectives. Frequently, chiefs write to the NFPA Fire Service Department for suggestions on how to solve this problem. The article on these pages has been written, primarily, to answer some of these questions.

Of course, in the everyday administration of the volunteer fire department, the fire chief has a number of responsibilities. These include the selection of officers, the establishment of a chain of command, and the development of an efficient pattern of organization for response to alarms and fire fighting. Sound recommendations on such organization and administration are published in NFPA Standard No. 192. There are, however, a number of other functions which volunteer fire chiefs should consider in the year-round schedule.

A volunteer fire department is no different from any other organization. In order to endure as a unit it must have definite objectives, its members must be continually active, and they must feel that something worthwhile is being accomplished by their expenditure of time and effort. On the whole, volunteer fire departments have fulfilled these requirements and, in providing fire protection in their respective areas, have created a remarkable history of accomplishment and unselfish devotion to the safety of human society.

Nevertheless, it is understandable that chiefs of some of these departments are seriously concerned about the morale of their men and the need for maintaining their interest. A volunteer fire fighter can only devote a certain amount of time to his department and the increased pace of modern living tugs more and more at his interests and energy. Accordingly, if his fire department does not have an active program and definite objectives, it is understandable that he might want to devote more of his time to other fields of activity.

Clearly, then, it is up to the chiefs and officers of volunteer fire departments to establish and work for reasonable objectives. These might be: (1) to create the best, most efficient volunteer fire department that can be made to serve as a permanent organization in the community; (2) to have the department accomplish specific things each year within the scope of fire department service; (3) to designate a certain amount of activity and responsibility for each member of the department, assigning him specific jobs and making sure that he knows the over-all objectives of the department.

Some volunteer fire departments limit their potential activities by concentrating their entire year-round program on training for fire extinguishment. This is fine for departments that have a large number of actual fire calls or else have the opportunity to engage in training on actual fires, such as those involving flammable liquids or old, condemned structures. However, if a volunteer fire department has infrequent fire calls and does not have training facilities for actual fire combat, then the "dry run" evolutions can become pretty monotonous, if that is the only training or operational activity.

Actually, the modern, progressive volunteer fire department can become involved in so many worthwhile activities that there simply will not be time enough in one year, five years, or ten years to reach all the desirable goals. For example, the members of a fire department can devote many years to the study and discussion of fire protection and fire control and still learn something new each year. In addition, there is the department's obligation to instruct the citizens of the community in basic methods of preventing fire and its accompanying tragedies.

The department has certain civic obligations, that is, in cooperating with the elected community officials and the other service departments in the community.

JULY	Reference
Administrative:	
Select and order materials for Fire Prevention Week. Plan distribution of posters, folders, self-inspection blanks, etc., to schools, stores and industry in first week of October. (Complete list of this year's material available from NFPA in July.)	NFPA Public Relations Department
Operations:	
Have all members study your plans for conducting fire exit drills in schools. (Should be at least eight drills in year.)	NFPA Standard 101—Building Exits Code
Survey and map static water sources such as ponds, rivers, and private water supplies.	NFPA Handbook of Fire Protection
Build necessary equipment for fire prevention demonstrations.	Reprint from February, 1960, FIREMEN magazine
Training:	
Conduct evolutions with hose, ladders, resuscitators, and rescue equipment.	Your State fire training manuals

AUGUST	Reference
Administrative:	
Plan a fire safety training program for baby sitters. Get help from Grange, police, women's clubs, doctors, nurses and, perhaps, school teachers.	Kit from NFPA Public Relations Department
Operations:	
Survey target hazards such as big stores, farms, industrial buildings. Talk with owners or management to get necessary permission, information on hazardous areas, etc.	Inspection Manual Reprint from January–April, 1956, FIREMEN magazine on Pre-Fire Planning
If aerial ladder is available, move it to various positions around buildings and simulate rescue.	
Training:	
Set up apparatus at water sources, make hose layouts to get maximum use of each pumper for supplying direct lines or relaying.	Operating Fire Department Pumpers
Have each man operate fog nozzle on charged line.	Attacking and Extinguishing Interior Fires
Set up portable pump at static water source and use it to: (1) supply nozzle on 1½-in. hose line over 100, 150 and 200 feet; (2) fill booster tank; (3) relay to another portable pump supplying lines at a higher elevation.	

The fire department might also engage in its own fund raising activities and social and charitable drives.

The volunteer fire chief, naturally, is primarily concerned about the adequacy of fire protection in his community and the skill and teamwork of men under his command. First, he must make certain that there is an adequate system of reporting alarms of fire in his community; then, he must develop the best system for his men to respond to those fires. Next, he must be sure that each man knows the proper techniques of rescue and fire extinguishment and that there are capable officers to command and lead the different groups of fire fighters on the fire ground. Finally, he, as the chief, must be capable of coordinating the over-all activities on the fire ground as well as in the day-to-day fire department routine.

Accordingly, the fire chief will devote considerable time in establishing a good year-round training program in the techniques of fire control. He might be able to get help from several sources. A number of states, such as Maryland, Iowa, Florida, Pennsylvania, California and others, have excellent, well established firemen's training programs conducted with the support of state vocational departments. Through these programs, individual fire departments have the benefit of well planned, year-round training, or they get assistance from traveling instructors in carrying out practical training sessions. The state may provide certain short courses for fire officers, instructors, or fire fighters who want specialized training. Sometimes this training assistance is available from the county level; or perhaps the state fire chiefs' or firemen's association can give some help. In addition, it is always possible to get training assistance from experienced fire officers of paid fire departments in the state who usually are willing to devote a great deal of time and effort to helping volunteer fire departments.

In addition to fire control training, however, there are other worthwhile objectives for volunteer fire departments. There is, for example, the continued need for obtaining modern apparatus, equipment and housing for the department. It is essential that someone in the department be concerned with the business aspects of

SEPTEMBER	Reference
Administrative:	
Select and train inspection teams for Fire Prevention Week. Rehearse men in type of talks they will give to schools, general public, owners of buildings, stores, garages, industry, etc.	NFPA Public Relations Manual
Develop schedule of inspections (routes, amount of buildings, follow-up, records).	NFPA Inspection Manual
Contact school officials to coordinate inspections, fire exit drills, school fire safety instruction throughout school year.	
Operations:	
Clean and paint apparatus, equipment and fire station.	
Inspect all hose and couplings and run hose tests. Write results on hose record cards.	NFPA Standard 198—Care of Fire Hose
Fix or replace couplings and hose as needed.	
Conduct fire exit drills in schools, hospitals and institutions.	NFPA Standard 101—Building Exits Code
Training:	
Conduct quiz on your planned fire ground operations for "target hazard" buildings.	Reprint from January–April, 1956, FIREMEN magazine on Pre-Fire Planning
Rehearse man or men for radio and/or TV broadcasts in Fire Prevention Week.	Check with local radio and television station representatives

OCTOBER	Reference
Administrative:	
Make final assignments for fire station "open house," parade, inspections and public relations work for Fire Prevention Week.	
Plan mutual aid exercise with neighboring departments next month. Each chief should have chance to exercise over-all command.	
Plan your training film program for winter months and write to distributors.	Fire Control Film List
Select officers and men to (1) work for establishment of fire prevention code, or (2) study existing code to determine needed improvements.	NFPA Standard 1-L — set of National Fire Codes, Fire Prevention Code of National Board of Fire Underwriters
Operations:	
1st week: Distribute Fire Prevention Week materials.	
Start preparing book to be submitted as entry to international Fire Prevention Contest sponsored by NFPA. (Photos, news clippings useful for this.)	February 1958, 1959 and 1960 issues of FIREMEN magazine
Distribute invalid markers to dwellings. Conduct school fire exit drills.	
Training:	
Let each officer assume over-all command of a full fire department response training exercise. Afterward, hold officers' critique.	Fire Fighting Tactics Handbook of Fire Protection

financing the organization and definite objectives should be established and reached each year for this purpose. It is fundamental that each fire department tries to improve its fire control power through the purchase of modern apparatus and equipment. This calls for a long-range program of planning, as well as fund raising, either through the appropriation of tax funds or else having the members of the department sponsor carnivals, fairs and other fund raising projects. Whatever method is used, fund raising usually means that the fire department has to make a direct approach to the public for support. This means that individual members of the department probably will need special instructions and preparation for the particular fund raising program. Not to be overlooked in this respect is the potential assistance of the fire department's women's auxiliary. These groups include the wives of the fire fighters and across the nation they have made many significant contributions to the fire service.

Members of the fire service often overlook the fact that the average citizen simply is not aware of the fundamental safe practices of fire protection. He does, however, know that his local fire department exists to protect him against fire and, generally, Mr. Average Citizen will be very appreciative of any help and advice that the fire department can give him to make his home, his business, his industry, or any other buildings under his management safer from fire.

Accordingly, the modern volunteer fire department should establish a year-round program of fire prevention. This alone can give the members plenty of work in any given year. First of all, to develop an effective program, the fire department must gain the interest and support of all the representative groups in the community, that is, individual property owners, representatives of business and industry, school, church and medical authorities, elected officials, and other service departments in the community. This is no easy task, but year after year the NFPA Fire Prevention Contest proves that it is being accomplished by volunteer fire departments in small communities.

In selecting various objectives for each year, the volunteer fire chief should choose those which will (1) let each man take part in an activity which is not simply work but leads to some kind of tangible accomplishment; (2) make each man realize he is part of a group working towards a desirable objective; and (3) help each man to understand clearly the over-all objectives and desirable standard of performance of the volunteer fire department.

Some chiefs assign every member of the department to at least one of a number of the department's com-

NOVEMBER	Reference
Administrative:	
Submit Fire Prevention Contest entry to NFPA before November 30th.	
Plan to contact merchants for cooperation in fire safety during holiday season. (Things to be considered: possible overcrowding of rooms or areas with people shopping or watching displays; accumulation of paper and rubbish; overloading of electrical circuits for holiday displays; hazardous, flammable toys and materials which might be brought in for Christmas rush.)	NFPA Christmas folder, poster, etc. Building Exits Code
Contact clergymen or groups so that all churches can be inspected and made ready for the winter months. Check heating, wiring, undivided attic spaces, non-firestopped walls, etc. Try to develop plan to minimize possibility of arson in churches. Conduct a fire exit drill for Sunday schools.	Occupancy Fire Record FR56–4 — "Churches" NFPA Inspection Manual
Issue news releases to press, radio, and TV on home fire safety in cold weather, covering heating appliances, fire exit drills, baby sitters, calling fire department.	NFPA Pamphlet 616M — Pre-Fire Planning and Fire Prevention
Operations:	
"Winterize" apparatus for cold weather operation.	Manufacturers' manuals
Prepare barrels for use in static water supply that may freeze.	
Prepare "snow markers" for hydrants and static water supply.	
Training:	
Indoor "chalk board" sessions on hydraulics.	Handbook of Fire Protection
Show film on LP gas fires.	"LP Gas Fire Control" film
Guest fire officer from a paid department to speak on ventilation, resuscitation, rescue techniques or other subject.	
Guest doctor to speak on first aid, physical condition required of fire fighters, effects of smoke inhalation and oxygen deficiency, or other subject.	

mittees. Each committee has a chairman, a secretary, and one or more assigned "projects" for the improvement of the department.

Other chiefs may have each man study a particular subject in the broad field of fire control, then give talks to the members of the department on that particular subject. For example, one man may specialize in the study of flammable liquid storage; another may concentrate on the design of LP-Gas vehicles; a third may learn all he can about the state laws pertaining to the fire service. In addition to improving their knowledge, these men can develop poise and confidence for public speaking simply by trying to give an effective talk for their fellow firemen.

As a general rule, a volunteer fire fighter likes to do something which requires physical effort, primarily, tasks that require work with the hands, or perhaps full action of the entire body, as in wielding a nozzle on a charged line or making a rescue over ladders. He

DECEMBER	Reference
Administrative:	
Plan your fire prevention campaign for next year. Decide on definite public educational objectives for each month such as family fire exit drills, hazards of electricity, amateur rocketry, etc. Assign officers and men to get the key jobs done on schedule.	
Discuss with all members of department your planned rescue and fire fighting operations for nursing homes, prisons, hospitals and asylums in your area or in nearby mutual aid area.	List of NFPA publications
Discuss with all members the kind of protection currently given to them by State law, local ordinance, workmen's compensation, insurance, etc. A local attorney would be helpful on this.	
Operations:	
Select key officers and men to get support of local organizations for fire prevention.	
Conduct inspections of stores, hotels and theatres before holidays.	
Conduct school fire exit drills.	
Training:	
Indoor training sessions — rope hitches, knots and splicing.	
Procedures for thin ice rescues.	
Fundamentals of pumper operation, each man going through "dry run" of driving pumper, putting pump in gear, operating booster pump, main pump, gate valves and shutting down.	Operating Fire Department Pumpers
"Chalk board" talk on operation of compound gage.	Manufacturers' manuals
If hydrants are available, place markers for "snow" conditions.	
Check hydrant operation for freezing weather.	
Make sure all vehicles are properly lubricated and maintained for cold weather.	
Show training films or slides.	Fire Control Film List

JANUARY	Reference
Administrative:	
Plan to begin or improve assistance to local Boy Scout groups by sponsoring troop, helping Scout activities, fire safety instruction, etc.	Regional Boy Scout Officers
Consider formation of Sparky Fire Department for youngsters.	Pamphlet from NFPA Public Relations Department
Training:	
Indoor sessions: Training film followed by use of appropriate equipment or discussion.	Fire Control Film List
Guest speakers from Fire Marshal's office to discuss arson and detection and preservation of evidence and fireman's responsibility in court.	
Speakers from other service departments in area to cover water supply, police operations in rescue and highway emergency, things firemen should know about health department (water pollution, handling people with contagious diseases, location of radioactive materials, etc.). Building department representative on local building laws.	

FEBRUARY	Reference
Administrative:	
Plan Spring Clean-Up Campaign — assign men to contact local merchants, industry, farmers, etc.	Spring Clean-Up inspection blanks, poster, folders, etc. — NFPA Public Relations Department
Contact state and county associations and other sources of firemen's training and plan to send officers and men.	
Operations:	
Refurbishing threads on all hose couplings and adapters.	NFPA Standard 194— Fire Hose Coupling Screw Threads
Inspection and maintenance of fire extinguishers in department and local buildings.	NFPA Standard 10 — Portable Fire Extinguishers
Check all tools for cleanliness, lubrication, sharpness, etc.	
Check condition of portable pumping equipment and have each man go through "dry run" or actual operation of unit.	
Conduct school fire exit drills.	
Training:	
Practice with salvage covers — one- and two-man throws, folding, use of cover as chute, for holding water in suction basin. Practice other salvage techniques.	Industrial Fire Brigades Training Manual NBFU Pamphlet, "Fire Department Salvaging Operations"
Practice rope slings for rescuing injured persons.	
Guest speaker from local or state forestry organization to discuss techniques for handling forest fires and how forestry and fire department units work in combined operations.	

MARCH	Reference
Administrative:	
Plan inspection and numbering of rural properties, routes of response, fire ground operations — make necessary maps, sketches and cards that can be carried on apparatus.	NFPA Pamphlet 616M — Pre-Fire Planning and Fire Prevention
Training:	
Brief officers and men on command procedures within department and in mutual aid.	Fire Fighting Tactics
Training film on fighting flammable liquid fires.	Fire Control Film List
Guest speakers — authorized electrical inspector to describe and illustrate good electrical installations and hazardous conditions to look for.	Volume V, National Fire Codes (National Electrical Code) Abbott's National Electrical Code Handbook
Speaker from agricultural department on how to handle farm animals in emergency.	

APRIL	Reference
Administrative:	
Releases to press on brush burning.	
Start Spring Clean-Up Campaign. (Pick best date for your locality.)	
Check condition and fire protection of local dump.	NFPA Standard 602—The Community Dump
Operations:	
Check all ladders for needed tightening of bolts, painting, and general maintenance.	NFPA Standard 193—Fire Department Ladders, Ground and Aerial
Run tests on ladders.	
Inspect rural properties and post numbers if necessary.	
Spring checkup of apparatus.	Manufacturers' manuals
Conduct school fire exit drills.	
Training:	
Practice pumper relay with other departments.	Operating Fire Department Pumpers
Practice pumper operation with tanker shuttle.	

knows that he must go through certain fundamental training exercises for his own skill and safety in fire fighting. However, because of the many fields of interest afforded by the need for fire protection, the modern fire fighter is willing to devote some time merely to listening to someone talk or perhaps watching a motion picture film *providing* that the subject and instruction adds to his knowledge and skills.

As an example of a typical program which a volunteer fire chief might select for his department, we show on these pages a "calendar " of activities. Many fire departments work year-round on similar schedules. The items shown for each month are merely suggested; there is nothing "standardized" about the program. In other words, some fire departments might want to schedule outdoor and indoor activities for different months than those shown in the calendar. No attempt has been made to insert a schedule of various "outside" projects such as planning the building of a new fire station or the expansion of present facilities, corresponding with other fire departments around the country and other worthwhile tasks. It is assumed that the individual fire chief will include such activities in developing his year-round program and in "balancing" the responsibilities of his officers and men.

Except where noted, all of the references listed in the right hand column for each month, may be obtained from the offices of the NFPA, 60 Batterymarch Street, Boston 10, Massachusetts. A complete list of NFPA publications is available free on request.

MAY	Reference
Administrative:	
If your area of protection includes lake or seacoast, plan a campaign of boating fire safety for local boating clubs and general public. Cover methods of sending alarm, use of fire extinguishers, proper storage and hazards of flammable liquids.	
Operations:	
Road tests and performance of all apparatus.	NFPA Standard 19—Motor Fire Apparatus
Annual test of pumpers and suction hose.	
Calculate or weigh total load of all apparatus carrying water, equipment and full crew to make sure apparatus is not overloaded.	
Conduct school fire exit drills.	NFPA Standard 101—Building Exits Code
Training:	
Put all drivers through tests for skill and knowledge of apparatus (starting, shifting, turning, backing, parking, operating pump, aerial ladder, etc.)	
Practice making rescues from ladders. Practice raising extension ladders.	Handling Hose and Ladders Your State fire training manuals

JUNE	Reference
Administrative:	
Meet with skin divers' club members to discuss safe methods of underwater searching.	
Plan Fall inspections of dwellings, stores, etc.	Inspection Manual
Operations:	
Conduct firemen's muster with other fire departments.	
Competitive evolutions with hose, ladders and apparatus with emphasis on efficiency and skill rather than speed.	
Use or parade of old-time apparatus.	
Training:	
Rehearse techniques for aircraft crash fires and rescue.	NFPA Standard 406—Aircraft Rescue and Fire Fighting Techniques
Practice methods for recovering and reviving drowned persons (resuscitation, mouth to mouth method, draining water from lungs, etc.)	Red Cross manuals

A NEW SERIES ON HEAVY STREAMS—

USING LADDER PIPES

Part II

by Warren Y. Kimball, managing editor, FIREMEN Magazine, and manager, NFPA Fire Service Department.

THE standard method of providing elevated heavy streams is by means of ladder pipes attached to power operated aerial ladders. In fire departments that also have water towers, the ladder pipes provide supplementary elevated stream service. In the majority of cities ladder pipes now are the chief means of providing streams at heights above streams from turrets or monitors operated from street level or from the tops of various pieces of fire apparatus.

NFPA Standard No. 19 recommends a ladder pipe for each aerial ladder. In the grading schedule of the National Board of Fire Underwriters two ladder pipes are considered as equivalent to a water tower. This would seem to be a reasonable evaluation because the average ladder pipe stream flows approximately 500 gallons per minute as compared with about 1000 gpm capability from the main mast nozzle of a water tower.

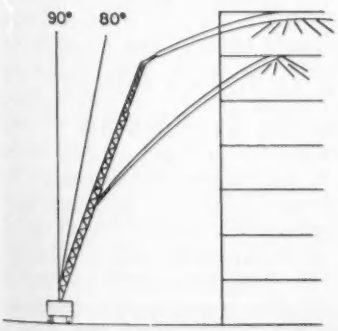
Standard No. 19 also calls for 3-inch hose to supply ladder pipes. This size hose generally limits flows to about 600 gpm for ladder pipes supplied by 100 feet of hose on the ladder, and perhaps 700 gpm where only 50 feet of lead hose is used. Tests have shown that flows from a single ladder pipe can be increased to the 1000 gpm range by using two 3-inch lines or a single 3½-inch line on the ladder but this introduces other problems and has not been generally practiced.

Ladder pipes are carried in two different ways. They may be mounted permanently beneath the bed ladder with lead hose and siamese attached, or they may be carried separately and attached to the top section of the fly ladder when needed. Each method has advantages and disadvantages. Some fire departments equip their larger aerial ladder trucks with two ladder pipes; one permanently mounted under the bed ladder and the other portable for use on the fly ladder. This permits the ladder to provide two elevated streams, each fed by 3-inch lines, with a total discharge of 1200 gpm or more.

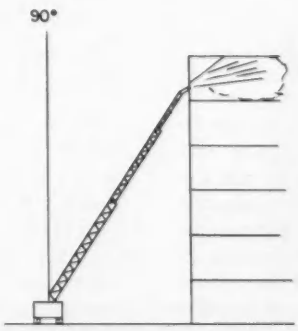
NFPA Standard No. 19 now calls for a three-way siamese to supply each ladder pipe. Experience has shown that a two-way siamese may not be adequate for supplying ladder pipes because pressure losses may be excessive when only two 2½-inch supply lines are feeding the ladder pipe siamese.

Manufacturers' manuals give certain safety limits which should be carefully observed in ladder pipe operations covering each type and size of aerial ladder. These limitations govern the maximum recommended flow and maximum extension of the fly ladder at various angles when used for ladder pipe service. A typical recommendation limits ladder pipe flows from the fly section to 600 gpm when a hoseman is at the top of the ladder and permits flows up to 1100 gpm when the pipe is directed from the ground with no men on the ladder. Where ladder pipes are operated simultaneously from both the top fly section and from the bed ladder, the recommended maximum extension of the fly ladder may be somewhat less than when only a single ladder pipe is used.

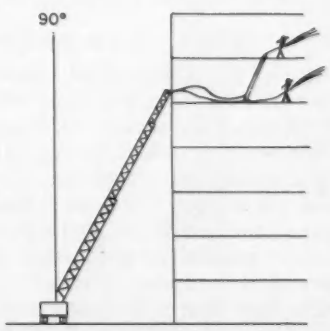
Some ladder trucks also have a large turret nozzle or deck pipe capable of handling a 2-inch tip. This is provided in anticipation of the fact that when the truck is in front of the building for ladder pipe service a turret stream may also be useful. It should be kept in mind that working space in front of a fire building is often limited and that a single master stream often does not give the distribution of water needed to control a big fire. Accordingly, a ladder truck equipped



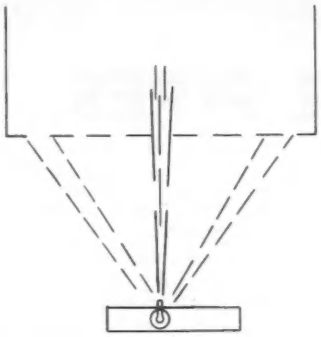
Ladder placed at 70 to 80 degree angle permits maximum safe elevation for ladder pipe service and excellent stream penetration.



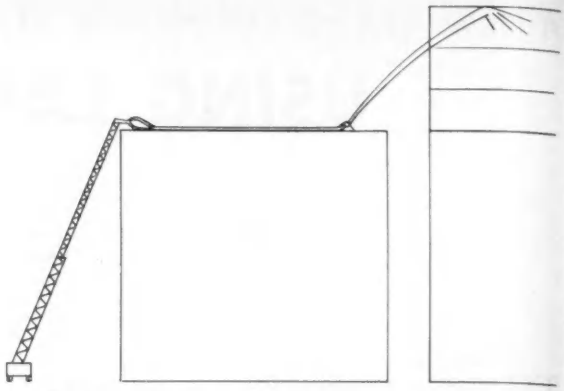
Large fog nozzle directed through window provides maximum coverage of fire area with fog nozzle in close proximity to fire.



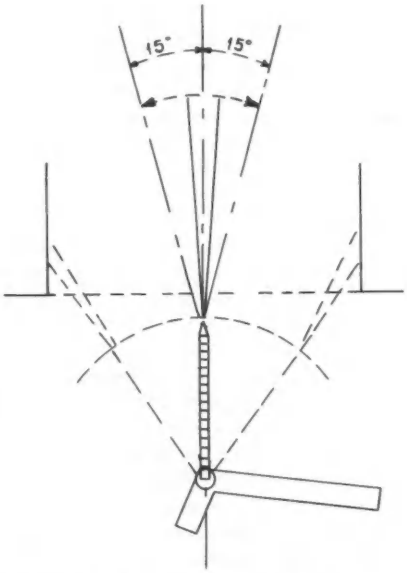
After fire is knocked down, lines attached to ladder pipe provide excellent base for mop-up operations.



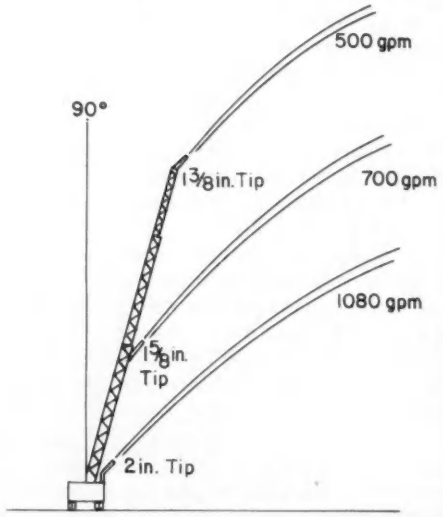
With water tower in same position the stream not only has further to travel but also provides relatively poor coverage at either side.



Ladder pipe serving as portable standpipe for supplying portable monitor nozzle operating on fire from adjacent roof.



Rotation of ladder turntable permits ladder pipe to sweep entire front of fire area horizontally as well as vertically. Pipe may have horizontal rotation not exceeding 15° either side of center.



Aerial ladder operating tip and bed ladder pipes plus a deck nozzle. Some fire departments might choose to use a 1½-in. tip (600 gpm) on the fly ladder and a 1¾-in. tip on the bed ladder, but the slightly smaller tips shown here will usually result in more effective nozzle pressures for elevated streams.

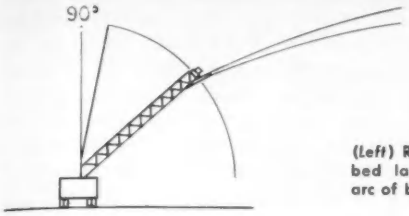
to project two or three large streams may be much more valuable than one having but a single ladder pipe, provided, of course, that all master streams are supplied with sufficient volume and pressure.

Bed Ladder Pipes

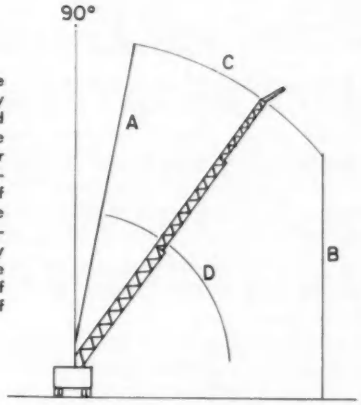
Ladder pipes permanently attached to the bed ladder of an aerial have certain advantages as well as limitations. Advantages are that the pipe is carried permanently attached to the ladder with hose and siamese ready for instant use. The hose from the siamese will be relatively short so that pressure losses due to the large flow in the lead hose will be greatly minimized. Some departments use permanent piping in place of the lead hose. The bed ladder provides a more stable base than a fly ladder and can handle streams from larger nozzle tips with greater safety.

Disadvantages of the ladder pipe on the bed ladder are that the maximum height of the pipe above the ground is limited by the height reached by the bed section and may be from 33 to 46 feet, depending upon the height of the particular bed ladder. Ladder pipes on fly ladders may be extended to heights of from 60 to 80 feet, depending upon the size and type of ladder. The extension of the bed ladder pipe toward the building is entirely limited by the arc prescribed by the end of the bed ladder. The pipe cannot be extended outward as can be done with a pipe attached to a fly ladder. For this reason the pipe on the bed ladder should generally be employed with a solid stream tip which will provide good reach. Tips normally satisfactory for this purpose are 1½-inch (600 gpm), 1⅝-inch (700 gpm) or 1¾-inch (800 gpm). It is not recommended that a 2-inch tip be employed because it is not feasible to supply 1000 gpm to an elevated nozzle through a single 3-inch lead hose.

While individual streams from ladder pipes are usually smaller than streams provided from water



(*Left*) Range of pipe on bed ladder limited by arc of bed section.



(*Right*) Range of pipe on fly ladder limited by manufacturer's specified (a) maximum safe angle of elevation for ladder pipe service, (b) maximum horizontal reach of ladder for ladder pipe service, (c) arc of maximum extension of fly ladder for ladder pipe service, and (d) arc of maximum retraction of fly ladder.

towers, the ladder pipes have certain advantages not possessed by the towers:

1. Ladder pipes on 85- and 100-foot ladders make it possible to elevate nozzles considerably higher than present water towers.

2. The ladder supporting the pipe may be operated at various degrees of arc above grade providing a much greater flexibility in placing of the stream than in the case of towers which can only be operated with the mast raised vertically.

3. The ladder truck can be placed at a safe distance from possible falling walls and the nozzle extended to closer proximity with the flames.

4. The aerial ladder platform may be rotated with the ladder inclined toward the building and sweep a much greater area than is possible with a stream from a water tower having a vertical mast.

5. The ladder pipe may be equipped with a large fog nozzle which can be extended close to a window or other opening. The tower nozzle is too far from the fire to permit effective use of fog.

6. When desired, a man can mount the ladder to direct and observe the stream whereas most towers can only be controlled and observed from near ground level.

7. A good ladder pipe stream takes fewer hose lines for supply than the larger tower stream so can often be used more quickly and in places where water supply is not adequate to properly supply a water tower.

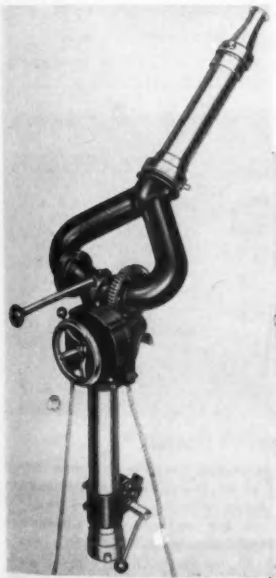
8. In most areas ladder pipes are immediately available with the truck positioned in front of the building. It is often difficult to place the late arriving water tower effectively.

9. When the main body of fire has been knocked down, the aerial with a ladder pipe provides a ready standpipe and means of access whereby 1½-inch or 2½-inch lines may be quickly and safely advanced into the fire area by merely removing the tip of the ladder pipe and attaching the desired leader lines. This saves much time and labor.

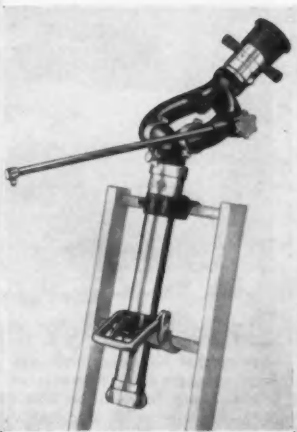
10. The aerial ladder has an infinite variety of uses including ventilating the upper floors whereas the tower stream is only useful on fires which are already beyond control and the destruction of the property involved by fire or water is conceded.

11. The crew of the ladder truck is available for general fire duty. The ladder pipe is only one of the truck company tools. On the other hand, the water tower has only one use and men assigned to the tower are largely wasted except on the rare occasions when the tower can be used.

A Selection of Ladder Pipes Used by Fire Departments



"GEYSER" ladder pipe PL3W of Wooster Brass, Division of The Fyr-Fyter Company, 221 Crane Street, Dayton, Ohio, is gear controlled and made of aluminum alloy.



Akron Brass Mfg. Company, Wooster, Ohio, ladder pipe has 3-inch inlet pipe, adjustable handle and other features. Here it is with "Imperial" constant flow nozzle.

No. 288 ladder pipe of Elkhart Brass Mfg. Company, Elkhart, Indiana, has stream shapers at base and tip end, 2½-in. discharge pipe and a torque guide arm.

"Invincible" portable ladder pipe of F. N. McIntire Brass Works, Inc., 377 Putnam Avenue, Cambridge, Massachusetts, weighs 45 pounds and has aluminum body.

Pumpers for Waltham, Massachusetts

The fire department of Waltham, Massachusetts, recently accepted two new Mack 1,000 gpm pumpers. Both trucks feature the Mack 707 cubic inch "Thermodyne" engines rated for 276 hp at 2,600 rpm. This pumper has a 300 gallon booster tank, extension and roof ladders, complete foam equipment, and a hose bed for 2,000 feet of hose. Waltham has purchased eight Mack fire trucks since 1939. The second unit is also a 1,000 gpm triple combination pumper with a 200 gallon tank, extension ladder and a 1,500 gpm deck gun.

"Play It Safe in the 50 States"

ONE of the outstanding features of the continual fire prevention program in Philadelphia is the support of fire department activities by local business and industry. The picture below gives one indication of this support. It shows one of two fire prevention teaching aids presented to the department by the Pepsi-Cola Bottling Company. Called "Play It Safe in the 50 States," it features a map of the United States backed by a series of electric lights. A youngster playing the game presses a control button, lights flash behind a number of states and finally one state remains illuminated.

The youngster must identify the state and the capital city, then answer a fire prevention question from a card which contains the corresponding number of the state in order of admittance to the union. The questions are tied in with geography and history. For example, when a light shines behind Illinois, the contestant is quizzed on the great Chicago fire and when the light stops behind Oklahoma he is asked about flammable oily rags.

Deputy Fire Commissioner William J. Eckles directs Philadelphia's fire prevention program. He reports that the two sets of "Play It Safe in the 50 States" were constructed by Dirmeyer Displays of Philadelphia for approximately $1500. Pepsi-Cola thus joins the Heinz Manufacturing Company, the ITE circuit Breaker Company, General Outdoor Advertising Company and the Bell Telephone Company on the fire department industrial "honor roll." The other firms were responsible for constructing earlier fire prevention games such as "Beat the Hazards," "Fireama," and "Reporting a Fire."

Shown above are (left to right) Firemen James McCabe and Francis Knowles, Managing Director Donald C. Wagner, Raymond Greinke, general manager of Pepsi-Cola Bottling Company, and William J. Eckles, deputy fire commissioner.

Aviation Bulletins

JUST published is a 24-page, 8½- x 11-inch booklet listing special aviation publications available from the National Fire Protection Association. This is useful for any one who purchases books and pamphlets for fire department libraries or training schools. It covers NFPA's basic aviation publications, a selected list of available NFPA aviation bulletins, special aircraft accident bulletins, special airport fire bulletins, posters and charts, hangar memos, maintenance and storage memos.

Copies of the list are available free on request to the NFPA Publications Department.

New Manual on Instructor Training

ANOTHER new manual has been published by the Fire Protection Department of Oklahoma State University at Stillwater, Oklahoma. Titled *Fire Service Instructor Training*, it is the second manual of the fire officer training series. The 56-page, 8½- x 11-inch, paper-bound volume presents a general summary of things fire department instructors will find useful. The text is broken into three sections: teaching and learning, methods of teaching, and visual aids. The appendix covers techniques on conference leadership and includes a glossary of terms used in the publication. Copies can be obtained by writing to the Department of Fire Protection Technology, Oklahoma State University, Stillwater, Oklahoma.

New Pumper in Norfolk

The Norfolk, Virginia, Fire Department, recently put into service this 750 gpm pumper. Chief W. J. Lewis (on running board) and two members of his department are shown with the new apparatus. It was assembled by members of the fire department's maintenance division and features an International model V-196 chassis with a 175-in. wheel base, a V-461 V-8 engine, a 750 gpm Howe pump and a 500 gallon booster tank. The unit was delivered to the department after the chassis, cab and pump had been assembled. Body and tank work was done by members of the fire division's maintenance garage under the supervision of Deputy Chief E. L. Chick. It was reported that approximately $4,000 was saved by this method of assemble. A second identical pumper is now being constructed.

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EMERGENCY SIGNALING DEVICE FOR FIRE FIGHTERS, RESCUE SQUADS, WATCHMEN AND OTHERS IN HAZARDOUS OCCUPATIONS

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Manually operated trigger releases powerful, high-pitched blast instantly alerting rescuers.

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- Piercing tone easily heard over the noise of fire and equipment
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RESCUE ALARM COMPANY

84 STATE STREET – BOSTON 9, MASS.

(Left) Pumper of Engine 6 with officer, driver and four men. Note "crash" helmet on driver. (*All photos by Carl Mertens, Miami Fire Prevention Bureau.*)

DRIVER TRAINING IN MIAMI

IN RECENT years the fire service has given considerable attention to the training of apparatus drivers. By now, it is generally accepted that such drivers must have good vision, good physical coordination, thorough knowledge of traffic laws, an appreciation of the many potential accident hazards, plus a complete understanding of the operational use of their vehicles.

Articles have been published in this magazine covering the driver training programs in Boston, Massachusetts (October, 1954), Oakland, California (November, 1954), and Hutchinson, Kansas (September, 1958). In addition, the magazine has included a number of other articles and editorials on apparatus accidents and fire department driver safety campaigns. It is encouraging to note that the fire service is well aware of the need for sensible driving practices and is selecting and training men for this responsible job.

Recently, for example, the Miami, Florida, Division of Fire announced that 270 men had completed its special training course for "driver-engineers." Chief Newton L. Wheeler, who heads the Division, has reported the details of this training.

In the Division, all drivers of emergency vehicles must pass six essential requirements:

1. FIREMAN FIRST CLASS — To qualify for the driver-engineer course, a fireman must pass his First Class examination. This is a Civil Service classification for which he is not eligible until he has completed three years of satisfactory service.

2. PHYSICAL FITNESS TEST — This covers physical reaction, visual acuity, depth perception and glare reaction.

3. TECHNICAL KNOWLEDGE — After attending a course at the Fire College, the man must show good knowledge of pumps, nozzles, aerial ladder hydraulic systems, and the rules and regulations of the Fire Division pertaining to drivers. In addition he must pass tests on a series of the Oklahoma A&M "red books" on pumps, nozzles and ladders, the NFPA book *Operating Fire Department Pumpers*, and the apparatus manuals of the Division of Fire.

4. He must also pass a "rule of thumb" hydraulics course developed by District Chief C. A. Jones and Lieutenants J. W. Oakley and R. E. Miller of the Division. Basically, this covers fire ground calculations of engine pressures required for various hose layouts.

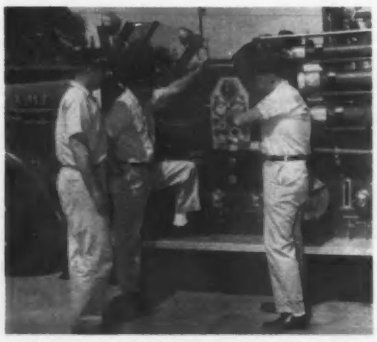
5. Lecture on "defensive driving," based on a system developed by H. E. Smith.

6. PERFORMANCE TEST — Before being certified as Driver-Engineer for a particular piece of apparatus, he must demonstrate his knowledge of the apparatus and his skill in handling it in various traffic conditions.

For the last-named test, the drivers maneuver the apparatus through selected narrow streets and areas which create difficult driving problems.

In addition to the regularly assigned drivers, Miami has also qualified a "striker," or reserve driver for each apparatus. Every driver and reserve driver who has completed the training receives an identifying silver band for his cap.

All officers of the Division have passed the course and it is their duty to conduct refresher classes periodically. For each of the twenty-eight pieces of emergency apparatus, two drivers are assigned on each platoon (three on the senior aerial ladder trucks). The drivers of the chiefs must also pass the course. Chief Wheeler estimates that this training program has saved the city more than $60,000 in the past two years.



(Left) Lieutenant J. W. Oakley, Instructor, talks about pumper gages with Driver Engineers T. L. Williams and W. A. Davies.

(Right) Lieutenant Oakley shows aerial ladder hydraulic controls to Driver Engineers C. S. Kurpik and C. J. Tomasch.

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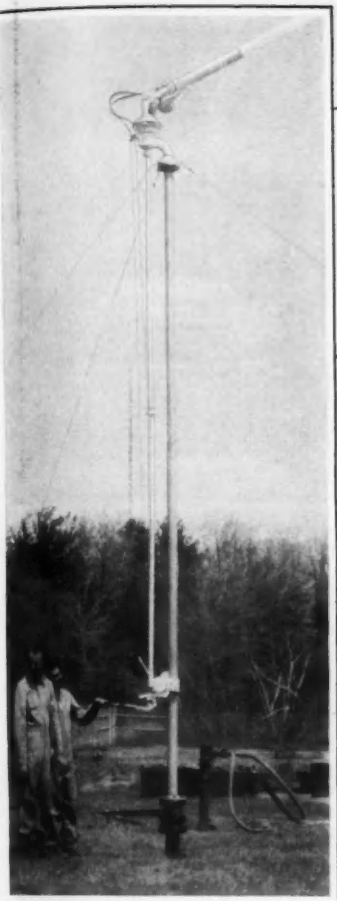
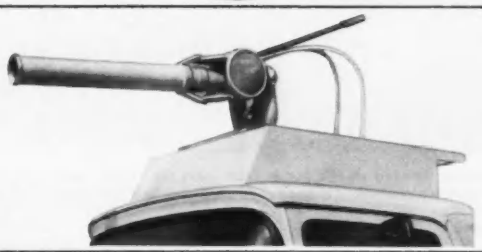
Solid FOAM Stream — WaterFOG — Solid Water Stream

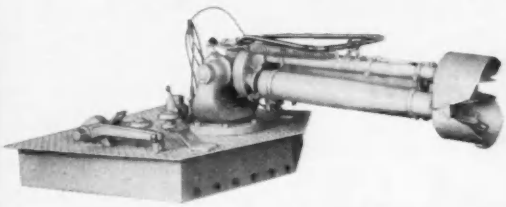


Extended Manual Control Type — Turret nozzles extend 10 to 20 feet above remote control station on deck or ground on standard units ... greater remote extensions for special applications.

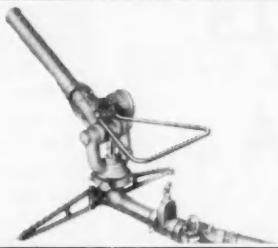
Direct Manual Control Type — Gives fire fighters "out-in-the-open" control from cab roof!



Remote Manual Control Type — Easily handled by man in driver's seat. Ideal for fast action!



Remote Hydraulic Control Type — Power-controlled from within the cab. Single and dual models. Widely used on air crash rescue fire-fighting trucks.



Portable Type — Off the truck and into action in seconds! Goes wherever a fire fighter can bring the proper hose line into action!

On the truck or on the ground, fire fighters can hit fires *harder* using Rockwood Turrets! At airports and refineries . . . in municipalities and throughout industry . . . these advanced-design fire-fighting aids are constantly proving their ability to extinguish fires faster.

Rockwood Turrets provide plenty of volume *and* versatility. What's more, all are easily adjustable on the fire line to meet changing fire conditions. Produced by the world's largest manufacturer of specialty Fire-Fighting Turrets, they're designed to give fire fighters an extra edge of efficiency on most types of fires. Get full details on the complete line of fire-fighting products. Write Rockwood Sprinkler Company, Portable Fire Protection Division, 431 Harlow Street, Worcester 5, Massachusetts.

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View of attractive fire station in Nichols Hills showing chief's car in front and the 1,000 gpm and the 750 gpm pumpers in the apparatus room. Office and recreation rooms are at left. Chief Kirkpatrick is a graduate of Oklahoma A&M and a former member of the Stillwater Fire Department.

THE FIRE DEPARTMENT IN NICHOLS HILLS, OKLAHOMA

Chief E. D. Kirkpatrick
Nichols Hills
Fire Department

NICHOLS HILLS, Oklahoma, is an attractive residential suburb of Oklahoma City and has a population of about 5,000. It is protected by a fire department which, though small in size, has excellent apparatus and equipment, a well-designed headquarters station, and an up-to-date program of training, pre-planning and general operations. Chief E. D. Kirkpatrick commands the department which has eleven full-time members including two captains and eight regular fire fighters. These men operate two shifts on an 84-hour week with a captain and four fire fighters serving on each shift. In addition, a college student is employed on a part-time basis to work at night in the station handling radio and telephone calls when the fire department is out on response.

The department recently completed a reorganization and modernization program which was started three years ago. Principal aim of the program was to build the attractive $50,000 fire station shown above. Funds for this station were raised by a bond issue in the Spring of 1957. The building has a classroom, an alarm room, kitchen, locker and shower facilities, an attractive lounge, and an office. The apparatus room houses four pieces of equipment and has a recessed area for work benches and tool cabinet.

Apparatus in the department includes the following:

A 1,000 gpm American LaFrance pumper with a 300-gallon booster tank, 1,000 ft. of 3-in. hose, 1,400 ft. of 2½-in. hose, 400 ft. of 1½-in. hose, Scott "Air-Paks," a master stream gun and salvage equipment.

A 1959 750 gpm Boardman pumper on a GMC chassis with a 500-gallon booster tank, 1,250 ft. of 2½-in. hose, 600 ft. of 1½-in. hose, 200 ft. of 1-in. hose, Scott "Air-Paks," generator and lights, salvage and rescue equipment.

Nichols Hills alarm desk showing radio and telephone facilities.

A 1942 Ford 500 gpm Seagrave pumper with a 300-gallon booster tank, 400 ft. of 2½-in. hose, 200 ft. of 1½-in. hose, 150 ft. of 1-in. hose, and pump cans. This truck is used for rural fires and as a reserve pumper.

A 1958 Ford Courier with a Scott "Air-Pak" and set of rescue equipment. This unit is also used as the chief's car.

All apparatus is radio-equipped. The 750 gpm pumper is operated as a squad truck and the 1,000 gpm pumper supplies feeder and attack lines.

Engine No. 2, the 750 gpm Boardman pumper, operates as a "squad."

Engine No. 1 is the 1,000 gpm American LaFrance pumper.

Training for the members is on a daily basis and is divided into two general types: accredited training using the "red books" from nearby Oklahoma State University School of Fire Protection, and special fire company operations, evolutions and pre-planning of the buildings and areas protected by the department.

For the best protection against smoke and water damage . . . Use *Fulton* SHUREDRY® GREEN-BAK SALVAGE COVERS! Water-proofed at all seams

When equipped with Fulton Shuredry Green-Bak Salvage Covers, your department can best protect goods and property from fire, disastrous smoke and water damage. This extra measure of care builds more good will and stronger community support.

SHUREDRY GREEN-BAK SALVAGE COVERS are...

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Shuredry Green-Bak Covers will pass the tests specified by the National Board of Fire Underwriters. They also carry the approved symbol of the Associated Factory Mutual Fire Insurance Companies.

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JUNIOR OFFICERS' TRAINING MANUAL (Lieutenants) — National Series. 500 multiple choice questions on Fire Extinguishers and Protection Systems, Water Supply, Disasters, Atomic Energy, Civil Defense, Fire Prevention, Supervision, Building Construction and Materials, etc. Each question with full explanation of answer as well as book and page number. Excellent for Engineers, Junior Officers' examinations. 1959 edition. $4.00

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FIREFIGHTERS' ENTRANCE COURSE — Finest entrance book for prospective firemen ever offered. All phases of current civil service entrance trends for firemen discussed. Published March 1959. $4.00

UNDERWRITERS' SPECIAL BULLETIN QUESTIONS — Based on the Bulletins. 300 top civil service questions with key and bulletin's page number citing the authority. Nationwide recent examinations. All current bulletins as of November 1st, 1958. First time a book on this group has been made available to firefighters. $3.00

FIREFIGHTERS' HANDBOOK OF QUESTIONS, Volume I — Based on NFPA "Handbook of Fire Protection." 450 top civil service questions. Key and authoritative pages. Nationwide recent questions. Finest book of its type. Often called the "Firefighters' Bible." $3.00

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Many additional helps not listed.

Anyone sending name and address and mentioning this advertisement will receive absolutely free a recent civil service promotional examination with key.

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Maryland Training

ROBERT C. BYRUS, director of the Fire Service Extension, University of Maryland, has called attention to the training activities scheduled at the University this year. The courses in operating fire department pumpers are already in progress. On May 14–15 Hugh Walker, Manager, MFA Sales Engineering, American LaFrance Corporation, Elmira, New York, will teach the operation, care and maintenance of American LaFrance pumps.

On May 21–22 Harry M. Blank, Chief Engineer, Seagrave Corporation, Columbus, Ohio, will cover Seagrave pumps. On June 4–5 Eugene F. Quinn, Service Manager, Hale Fire Pump Company, Conshohocken, Pennsylvania, will cover Hale pumps, and on June 11–12 Fred A. Waterous, Jr., Waterous Company, St. Paul, Minnesota, will cover Waterous pumps.

On August 1–3 the Fourth Annual Aerial Ladder Short Course will be held at the University. This will be followed by the Second Annual Governor's Conference on Fire Prevention on August 9–10. On September 6–9 the 27th Annual Short Course for Firemen will be held.

Blasting Cap Exhibit

FOR the past year the Bristol, Virginia, Fire Department, headed by Chief Hugh R. Worley, has been giving special attention to the hazards of blasting caps and dynamite. A near tragedy involving a Bristol boy caused fire department members to create a special exhibit for display in local schools.

The display shows a replica of a stick of dynamite and several types of electrical fuses or caps which would be used for detonation. Appropriate signs urge the youngsters to leave such devices alone and to notify the police or fire department whenever dynamite and blasting caps are found.

A Multiple Choice Question for You!

An item by Roy McConnell which appeared in the March, 1960, issue of the "Virginia Fireman." (Since we have not as yet been able to select the correct answer to the following question, we cannot grant permission for reproducing the following in any fire service promotional examination. — Ed.)

YOU are the Commanding Officer in charge of Truck No. 43, coming on duty on the evening of July 4, and upon lining your personnel up, you discover that the first driver has been celebrating and is under the weather.

The other four men in the company are detailed and no one has been approved as a driver for the truck.

You determine that the best course of action is to drive the truck yourself, knowing that you are not supposed to, but you make this decision rather than put the truck out of service.

When you go to put your clothes on the apparatus, your glasses fall on the floor and you step on them so that they are no further good to you. Just then Box 1246 comes in and you decide to respond, even knowing that your eyesight is not what it should be.

As you start out of the door you see a dark shape run in front of you, which turns out to be the Deputy Chief, and you strike him, knocking him to the floor, bleeding severely. As the front tires of the tractor pass over your broken glasses, they blow out, but since your company is first due you do not stop.

Upon arrival at the fire ground you find that a four-story apartment building is completely involved and people are beginning to come out of the building through the only door.

Due to the two flat tires on the front, your brakes won't hold and the truck jumps the sidewalk and stops against the only door, completely blocking it and preventing the people from getting out. Under these circumstances, which of the following would be your next immediate course of action?

Select One (1) Answer

A. Immediately notify Communication Section by radio that you are sorry you ran over the Deputy Chief, and ask him to send you the cleaning bill.

B. Locate the Chief in charge and tell him you are a little out of position.

C. Carry on as if nothing happened, hoping that Communication Division will cover up for you.

D. Ask the tillerman to get the life gun and bring it to you, insert the cartridge and slug, hold it to your temple and order the tillerman to pull the trigger.

E. Examine the tires, get the serial numbers and call the shop for a Job Order Number.

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FIRE PUMPS

Models No. 80 and No. 90

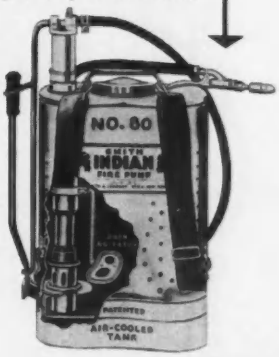
ALWAYS WIN OUT!

To lead the field you need the favorites . . . INDIAN FIRE PUMPS. Many new features so pump will not bind or leak. Insist on INDIANS . . . *a sure bet every time!*

No. 90 INDIAN FIRE PUMP
(Sliding Pump Type)

No. 80 INDIAN FIRE PUMP
(Lever Type Pump and Handle)

BOTH TYPES APPROVED BY UNDERWRITERS' LABORATORIES, INC.



Now is the time to check your needs for INDIAN FIRE PUMPS. Users say they are *"worth their weight in gold."* Use either clear water or a "wet water" powder compound. Every INDIAN FIRE PUMP is a "one man fire dept." Order now.

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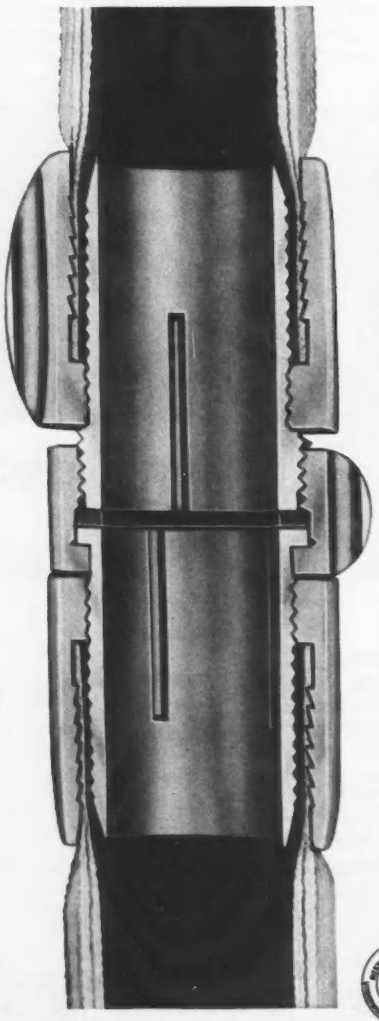
New Officers in Indiana

HERBERT L. DWYER, fire instructor, Indianapolis Fire Department Training School, was elected president of the Indiana Certified Fire Instructors Association during the annual institute at Purdue University. He succeeds Ralph Ellenwood, instructor for the Fort Wayne Fire Department and member of the NFPA Fire Service Training Committee.

In the photo, Dwyer is on the left in the front row and Ellenwood on the right. In back, left to right, are: Richard Templin, Muncie, who was elected first vice-president; Peter Kuipers, Lafayette, treasurer; and Carl Lederer, South Bend, second vice-president.

This association was established two years ago. About 30 instructors attended the training course at Purdue University.



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The simplified streamlined design of this precision coupling, which is basically the same as that of your booster hose, guarantees full flow, full pressure and ease of handling under all conditions. Fast emergency hose repairs can also be made in the field if you specify Bar-Way for original application.

Demand Bar-Way reusable couplings on your jacketed hose and watch your efficiency go up and the cost go down.

1 ½" and 2 ½" Conventional Wing Lug in production. All other standard sizes and lug styles available. Special engineering applications on request.

UL TESTED for 1400 lbs. pressure and 2400 lbs. pull under full pressure.

BAR-WAY BAR-WAY MFG. CO., STAMFORD, CONN.

Microfilm in Baltimore County

THE Baltimore County Fire Department, commanded by Chief W. H. Wineholt, is now using microfilm as an aid to dispatching from the central alarm office. The fire department simply made an adaptation of a microfilm system used in the County clerk's office.

As an initial step the Baltimore County maps were divided into areas and then corrected thoroughly. The men of volunteer companies in the county completed a great deal of the map correction on their own time. When the areas had been corrected, they were subdivided into sections showing the specific part of each area for which the various paid and volunteer fire departments and companies would be responsible.

The areas and sections were then microfilmed by the Recordak Corporation, mounted in aperture cards which were tabbed and identified and returned to the Towson Fire Department headquarters. Two sets of cards which are updated every six months permit cross-indexing by intersection.

A special device is used by the dispatcher to study an aperture card for the necessary information. A swivel card file holds the aperture cards which are tabbed alphabetically by areas and numerically by sections. The cards carry complete information on the areas, the order in which fire companies respond to alarms, and the order in which adjacent companies are to be alerted for standby or response. Currently, the locations of all fire hydrants and fire alarm boxes in the County are being added.

Charles S. Burk (seated), superintendent of the Baltimore County Communications Bureau and Deputy Chief F. Lee Cockey examine the microfilm equipment used for fire alarm dispatching in the County.

From Horses to Helicopters

THIS youthful looking gentleman is Chief George J. Bertsch of the U. S. Military Academy at West Point who this year completes two careers in the fire service spanning 44 years. In 1941 he retired from the Buffalo, New York, Fire Department as an acting battalion chief after 25 years' service interrupted by three years' service in the Navy in World War I. He immediately entered the U. S. Government fire service and served as fire chief or fire marshal at several major installations before coming to West Point as chief in 1950.

Chief Bertsch reports that he drove horses in the Buffalo Fire Department until 1921 and is now using helicopters to fight fires on the Academy's 14,000 acre artillery range. He was a member of the U. S. Olympic team in 1924 and plans to attend the 1960 Olympics in Rome. He celebrated his 65th birthday by a 66-mile bicycle ride around the reservation.

Text on Rescue

THE Davis Coaching School, 100 Edgehill Way, San Francisco 27, California, has published a new book on rescue titled *Emergency Rescue Techniques*. It shows a number of the latest techniques practiced by police and fire departments.

Artificial respiration, poisonings, childbirth, radiation hazards and other rescue problems are presented in chapter form. Each chapter has a series of questions at the end covering the chapter subject.

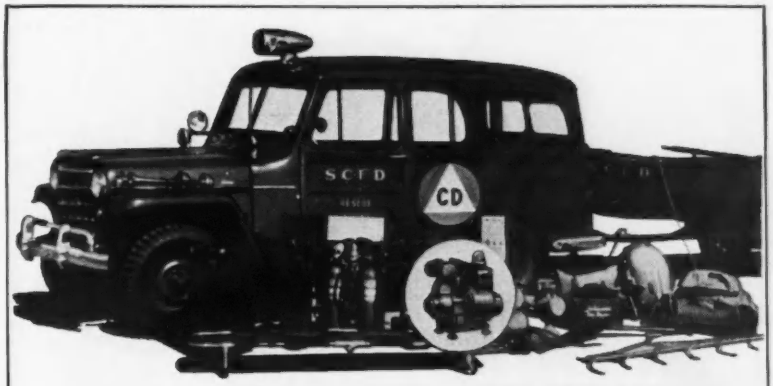
The book was written by L. W. Erven of the Los Angeles Fire Department who is also an instructor at the Los Angeles Harbor College. The 130-page book is 8½ x 11 inches in size, with each sheet printed on one side. Copies may be ordered from the Davis Coaching School. Single copies are $3.50 each; orders of five or more reduce the price to $2.75 per volume.

Connecticut Fire School

THE Connecticut State Fire College will be held during the week of June 6 at the New Haven Fire Department Training Grounds. Five days of training courses, Monday through Friday, will end with a Field Day on Saturday, June 11.

On Friday evening there will be an exhibit of fire fighting equipment and accessories at the training grounds. Field Day demonstrations on the following day will include various pumping equipment, heat reflective clothing, fire-retardant paint, extinguishers and other items. New Haven Fire Chief Thomas J. Collins is in charge of the program.

Training during the week will cover fire fighting, hose and ladder work, rescue, breathing apparatus, pumps, salvage and forcible entry.



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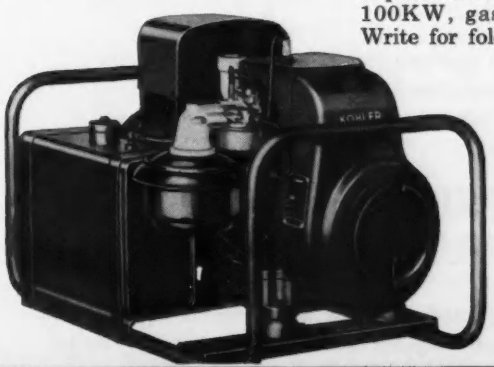

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FIRE SERVICE MEETINGS

Colorado:
June 15–18: Colorado State Firemen's Association, 43rd anniversary, convention, fire school and tournament, Colorado Springs. Contact Art Becker, secretary, 2224 South Stuart Street, Denver.

Florida:
June 9–10: Southeastern Association of Fire Chiefs, 32nd annual convention, Robert Meyer Hotel, Jacksonville. Contact Chief Frank C. Kelly, host chief, Jacksonville Fire Department.

Indiana:
June 3–4: Indiana Volunteer Firemen's Association, annual convention, Clinton. Contact Harry Fries, secretary, R. R. 3, Walkerton.

Iowa:
June 28–30: Missouri Valley Association of Fire Chiefs, annual conference, Fort Des Moines Hotel, Des Moines. Contact Chief Paul A. Soener, secretary, Fire Department, Independence.

Maryland:
June 22–24: Maryland State Firemen's Association, 68th annual convention, Ocean City. Contact Floyd Heimer, secretary, Branchville.

Michigan:
June 16–18: Michigan State Firemen's Association, annual convention, Croswell, sponsored by the Sanilac County Firemen's Association. Contact Stirling Garrow, secretary-treasurer, Michigan State Firemen's Association, 816 Oak Street, Port Huron.

Minnesota:
June 5–8: Minnesota State Fire Department Association, 85th annual convention, Cloquet. Contact Marshall B. Thornton, secretary, Nashwauk.

Mississippi:
June 2–3: Mississippi State Firemen's Association, annual convention, Hotel Markham, Gulfport. Contact Ralph E. Laughlin, secretary-treasurer, P.O. Box 1790, Jackson.

Missouri:
May 19: Franklin-Gasconade County Firefighters' Association, Inc., meeting, Owensville. Contact Elmar J. Schmidt, president, 208 Market Street, Washington.

Montana:
June 9–11: Montana State Fire Chiefs' Association, annual conference, Racetrack Fire Station, Butte. Contact William S. Hayes, secretary-treasurer, 208 Eklund Building, Great Falls.

Nevada:
June 11–13: Nevada State Firemen's Association, annual convention, Elko. Contact Horace E. Mullinax, secretary-treasurer, 2737 Daley Street, North Las Vegas.

New Hampshire:
June 20–23: New England Association of Fire Chiefs, 38th annual conference, Wentworth-by-the-Sea, Portsmouth. Contact Chief Albert W. Kimball, secretary-treasurer, 25 Leavitt Street, Hingham, Massachusetts.

New Jersey:
June 2–4: Eastern Association of Fire Chiefs, IAFC, Ocean City. Contact Chief Samuel E. Smith, Fire Department Headquarters, Ocean City.

New York:
May 23: Putnam County Volunteer Firemen's Association, Continental Village Fire House. Contact Morris DeWitt, secretary, P. O. Box 97, Mahopac.

June 11: Central Adirondack Firemen's Association, monthly meeting and field day, Old Forge. Contact Floyd Simons, secretary, Wells.

June 12–15: New York State Association of Fire

Chiefs, annual convention, Schroon Manor, Schroon Lake. Contact Chief Ward A. Bohner, secretary-treasurer, Van Buren Drive, Kinderhook.

June 14: Sullivan County Volunteer Firemen's Association, annual meeting, Monticello. Contact William Harris, secretary, Pond Eddy.

June 16–18: Hudson Valley Volunteer Firemen's Association, 71st annual convention, Monticello. Contact Charles M. Fales, secretary, 92 Clove Avenue, Haverstraw.

Ohio:

June 25: Central Western Firemen's Association, 30th annual convention, Union City (East Side) Fire Department, Union City, Indiana. Contact Chief Roger O'Donnell, president, 12 N. High Street, Covington.

Oklahoma:

June 6–8: Oklahoma State Firemen's Association, annual convention, Lake Murray Lodge, Ardmore. Contact Mrs. Charles Slemp, secretary, 820 N. E. 19th Street, Oklahoma City.

Oregon:

May 27: Polk-Yamhill Firemen's Association, monthly meeting, Willamina. Contact Glenn Wick, secretary, at above address.

June 19–22: Oregon Fire Chiefs' Association, Oregon Volunteer Firemen's Association and Oregon Rural Fire Protection Districts Association, joint annual conference, Seasider Hotel. Contact Chief E. L. Smith, Eugene Fire Department, Central Fire Station, Eugene.

Pennsylvania:

May 20: York County Firemen's Association, quarterly meeting, 7:30 p.m., Goodwill Fire Company, Grangeville. Contact L. E. Hankle, secretary, 234 West Chestnut Street, Hanover.

May 23: Lehigh County Volunteer Firemen's Association, monthly meeting, 8:30 p.m., Goodwill Fire Company No. 1, Trexlertown. Contact Arthur Mohr, secretary, Vera Cruz.

June 10–11: Dauphin County Volunteer Firemen's Association, 42nd annual convention, Harrisburg. Contact D. Edgar Fox, secretary, 723 N. 19th Street, Harrisburg.

June 12–18: Allegheny County Volunteer Firemen's Association, 46th annual convention, Sharpsburg. Contact A. H. Leck, recording secretary, Box 106, McKees Rocks.

June 17: Four County Firemen's Association, convention, West Catasauqua. Contact Arthur E. Wieand, president, or J. A. Everitt, secretary, Stroudsburg.

Saskatchewan:

June 20–22: Saskatchewan Association of Fire Chiefs, annual conference, Saskatoon. Contact F. O. Howard, secretary-treasurer, Fire Department, Regina, Saskatchewan.

South Carolina:

June 19–21: South Carolina Firemen's Association, state convention, Poinsette Hotel, Greenville. Contact Chief J. E. Poole, Greenville Fire Department.

South Dakota:

June 5–10: South Dakota Volunteer Firemen's Association, 31st annual fire school and 76th convention, Chamberlain. Contact Francis W. Pyncheon, secretary, P. O. Box 590, Pierre.

Utah:

June 9–11: Utah State Firemen's Association, 52nd annual convention, Cedar City. Contact Chief Ross L. Glass, Cedar City Fire Department.

Virginia:

June 10–11: Southwest Virginia Firemen's Association, annual convention, at Norton. Contact Lt. William H. Quarterman, Jr., Norton Fire Department, Box 141, Norton.

Washington:

June 22–25: Washington State Association of Fire Chiefs and Washington State Firemen's Association, joint meeting, Port Angeles. Contact Emma L. Ethier, secretary, 3206 E. 125th Street, Seattle.

Wisconsin:

June 20–22: Wisconsin Paid Firemen's Association, 52nd annual convention, Fond du Lac. Contact Bob Madden, secretary, 1240 Wolff Street, Racine.

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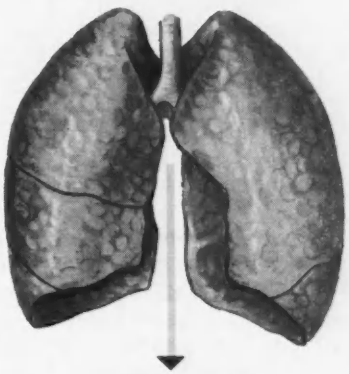

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"Living with Radiation — II"

THE U. S. Atomic Energy Commission has been conducting three-day courses for instructors for fire and police department members and others with a real need for practical information on radiation. The subject matter of these courses has been brought together into a text by Francis L. Brannigan and George S. Miles of the Safety and Fire Protection Branch of the Commission. It is titled "Living with Radiation, Part I, Fundamentals" (1959. 76 pages. 45 cents).

Last month AEC announced the availability of "Living with Radiation, Part II, Fire Service Problems" (1960. 144 pages. $1.00). Part II has appendices describing fires and accidents of interest.

Copies of both texts should be ordered directly from U. S. Superintendent of Documents, Washington 25, D. C. Persons who have taken the AEC course may obtain a copy of "Part II" without charge on request if they indicate the course they have attended and write for "Part II" to Francis L. Brannigan, Safety and Fire Protection Branch, U. S. Atomic Energy Commission, Washington 25, D. C.

Water Towers Scrapped

HONORARY Deputy Chief Clarence E. Meek, librarian of the New York City Fire Department, writes that all water tower companies in New York City were disbanded March 27, 1957, and all eight water towers have been scrapped. More than 70 aerial ladders have been equipped for water tower service.

BATTALION Chief Leo E. Gorman of the Providence, Rhode Island, Fire Department died at his home on March 27. He was known to a great many fire department members on the East Coast for his work as Chief of the Bureau of Fire Prevention in that city. He had been head of the Bureau since January, 1949.

Chief Gorman was born in Providence in 1901 and after World War I he was appointed to the fire department. He was made Lieutenant in 1932, Captain in 1936, and Battalion Chief in 1942. He was a member of the Fire Marshals Section of NFPA, the Rhode Island Chiefs' Association, the Providence Permanent Firemen's Relief Association, and other associations.

Film Guide on Chemicals

A REVISED edition of the "Film Guide on Chemicals, Chemistry and the Chemical Industry" has been published by the Manufacturing Chemists' Association, 1825 Connecticut Avenue, N.W., Washington 9, D. C. Copies of the list may be obtained without charge from the association at that address.

The expanded list shows titles, distributors and sources of 182 films in the chemical field. They are listed by 11 categories and range in subject matter from the scope of a given chemical company to "The Petrified River — The Story of Uranium." The guide is designed particularly for use by instructors and includes mention of the suggested audience level for each film.

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Firemen's Training in the Months Ahead

British Columbia: The British Columbia Fire Chiefs' Annual Fire College will be held at Campbell River. For details write to W. A. Oswald, secretary, 7850 Osler Avenue, Vancouver.

California: A fire training officers' workshop will be held in Fresno on May 16–20. The 7th Annual Fire and Arson Investigation Seminar is scheduled for June 13–17 at the University of California in Berkeley. Write to Thomas S. Ward, supervisor of fire training, State Department of Education, Sacramento.

Colorado: The Colorado State Firemen's Association Convention-Tournament and Fire School is planned for June 15–18 in Colorado Springs. For information write to Arthur J. Becker, secretary, 2224 South Stuart Street, Denver.

Connecticut: The Connecticut State Fire College is scheduled for June 6–10 at the New Haven Fire Department training ground. Contact Roy W. Adams, director, Vocational Training Field Service, Connecticut State Department of Education, 490 Capitol Avenue, Hartford.

Florida: Special training classes in heating and air conditioning will be held May 16–20; and in fire pump maintenance, June 6–10. Write to Superintendent W. H. Barnett, Florida State Fire College, P.O. Box 785, Ocala.

Illinois: The 36th Annual Illinois Fire College will be held June 13–16. For details write to R. K. Newton, supervisor, Firemanship Training, 116 D Illini Hall, Champaign.

Indiana: A basic fire school is planned for May 16–20; and a rescue school for May 24–25. Contact Prof. Shelby Gallien, Public Safety Institute, Purdue University, West Lafayette.

Iowa: The 36th Annual Iowa State Fire College will be held at Ames June 14–17. For information write to Keith Royer, supervisor, Firemanship Training, Iowa State University, 110 Marston Hall, Ames.

Kentucky: The Annual Firemen's Training School at the University of Kentucky will be held June 6–8. Write to John L. Thompson, chairman, Fire School Committee, 940 Starks Building, Louisville.

Michigan: The fire school will be held June 14–17. For details write to Francis Hartman, supervisor, Firemanship Training, Fire Training Center, University of Michigan, Ann Arbor.

Ontario: A radiological monitoring course will be held May 23–27 at the Ontario Fire College, Gravenhurst. On May 30–June 3 the Temiskaming District fire course and on June 6–24 the administration course for senior officers will both be held at the College. Contact D. E. Barrett, director, Ontario Fire College, P. O. Box 830, Gravenhurst.

Oregon: The Northwest Fire and Arson Investigation Seminar will be held in Portland, May 23–27. Write to Dr. Milton K. Davis, Portland Extension Service, 1633 S.W. Park Avenue, Portland.

Pennsylvania: Courses in ladders, rescue and salvage, May 16–20; and advanced fire fighting, May 23–27, are scheduled at the Pennsylvania State Firemen's Training School in Lewistown. Contact Art Espey, director, Box 631, Lewistown.

South Dakota: Chamberlain will be the site of the South Dakota Volunteer Firemen's Fire School June 6–10. Write to Francis W. Pyncheon, secretary, P.O. Box 590, Pierre.

Virginia: A fire instructors' school will be held in Blacksburg, May 30–June 3. Contact R. Lawrence Oliver, director, State Board of Education, P. O. Box 654, Harrisonburg.

Washington: The Annual Fire School will be held June 22–25 in Port Angeles. Contact Lyle Goodrich, supervisor of fire training, 3206 East 125th Street, Seattle.

West Virginia: The Southern West Virginia Fireman's Association's third annual fire school will be held June 10–11 at Cedar Lakes FFA-FHA Camp near Ripley. Contact C. E. McGinley, fire school director, 214 Third Avenue, Ripley.

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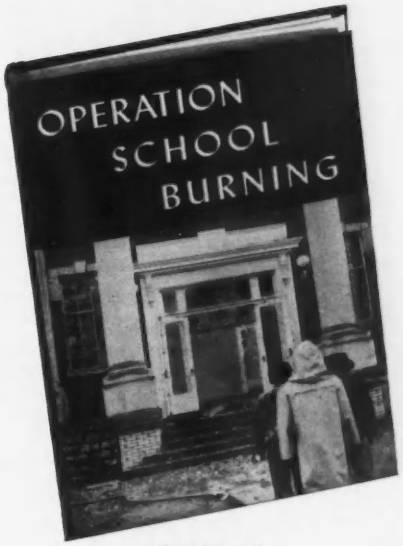
Of particular interest to fire fighters are the reports on the effectiveness of curtain boards, fire detection operation, forced and natural draft vent performance, fusible link operation, the data on smoke density, and the behavior of sprinklers and detection systems in these fires, and the tabulations of temperatures and pressure readings.

"OPERATION SCHOOL BURNING" should be a permanent reference book in every fire station library. Order your copy today!



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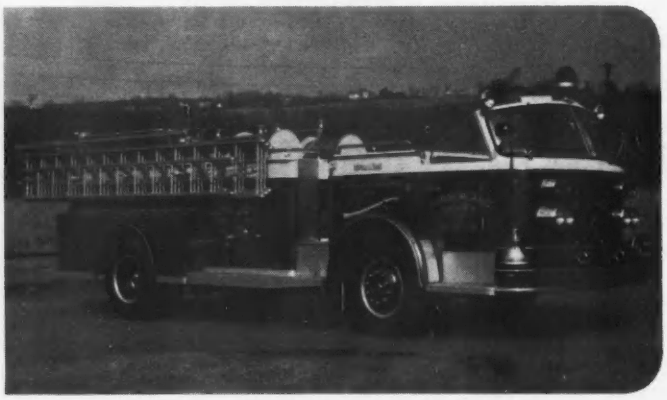

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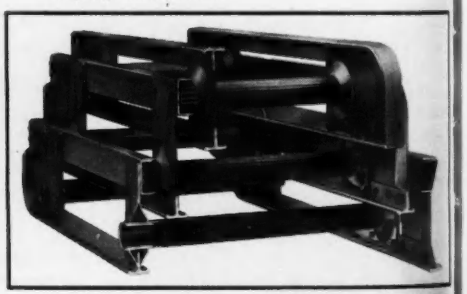

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News About SPARKY

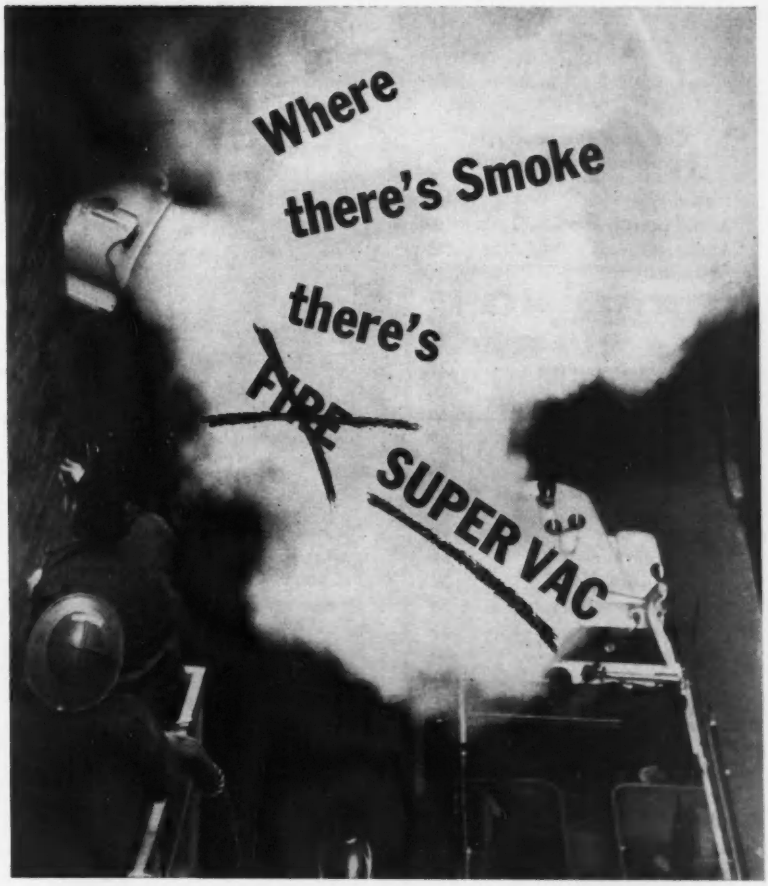
SPARKY, the symbol of home fire safety sponsored by NFPA, is now used extensively by fire departments to call public attention to fire prevention. For example, many fire departments, business and civic groups, and individuals are sponsoring Sparky Fire Departments; in fact, between 20,000 and 25,000 membership badges are sent out to youngsters each year from the NFPA Executive Office.

Recently the Sparky symbol has also been used effectively in outdoor advertising. Last December, in Maryland, twenty billboards carrying 8½- by 19½-ft. posters with an adaptation of the Sparky Christmas message, were displayed on main highways surrounding Baltimore City.

All but one or two were lighted at night and the posters were in position from December 1 through December 31.

The Fire Prevention Committee of the Maryland State Firemen's Association under the chairmanship of Howard B. Springer placed ten posters each with Mr. B. B. Martin of Elkton, Md., and the Donnelly Outdoor Advertising Corp. of Baltimore. As a contribution, the Globe Poster Company of that city printed the billboard 24-sheets at cost, while the space was a public service donation on the part of the outdoor advertising firms.

And in Boston, Massachusetts, the billboard shown below was erected outside the Statler Hilton Hotel. Assistant Chief John E. Clougherty, in charge of Fire Prevention, reports that the sign attracted much public attention.



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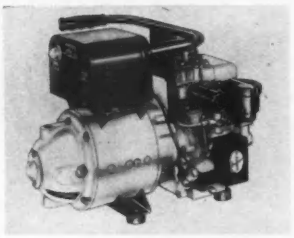
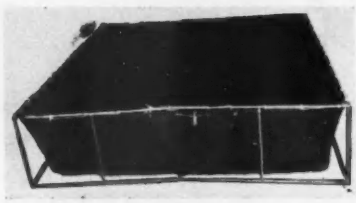


Portable Generator

Winpower Manufacturing Company, Newton, Iowa, is producing a new 1,500-watt portable electric generator. Weighing 112 pounds, it is powered by a four-cycle air-cooled Briggs & Stratton gasoline engine. The manufacturer's 1500, 2500, and 3500-watt models each feature an automatic idling control to reduce noise, save fuel, and increase engine life. Write to the manufacturer at the above address.

4B:C Rating for Extinguisher

American LaFrance Corporation, Elmira, New York, is producing this new dry chemical extinguisher. Designed for one-hand operation, the extinguisher weighs only 4¾ pounds and bears the UL and FM labels. It has also received the "approval" of the U. S. Coast Guard. For more details on Model PDC 2½B shown above, write to the manufacturer.



Collapsible Water Tanks

Can-Pro Corporation, Industrial Department, Fond-du-Lac, Wisconsin, has introduced a new 1,500-gallon collapsible canvas water tank with ¾-inch tubing frame, 10 feet square by 31 inches deep. Called the "Dump and Go Tank," material is 14.9- ounce flame-resistant canvas equipped with unique quick draining spout. Write to manufacturer for complete information.

New Sparky Emblem (Actual Size)

A "happy Sparky" emblem with finely molded features and a striking antique gold finish is the newest item by Roberts Company, Box 444D, Wayland, Massachusetts. Easily fastened to clothing with its clutch-back pin, it is a handsome collar or blouse ornament for the ladies and a distinctive lapel or tie-tack pin for men. Price is $1.00 plus 10c postage, with discount for quantity purchases. Illustrated catalog free from company at the above address.

Back-Pack Pump

This new Indian fire pump No. 90 with a fiberglass 5-gallon tank is now being made by D. B. Smith & Co., 408 Main Street, Utica 2, New York. According to the manufacturer, it is lighter in weight than previous models and has been tested thoroughly for rugged service.

Browning Laboratories, Inc., Laconia, New Hampshire, is marketing a citizens band radio receiving unit with five crystal-controlled channels for manual and vernier tuning. A base station transmitter is planned for the near future. . . . Joseph Esher has been appointed executive vice president of *American LaFrance Corporation*, Elmira, New York and William Irish has been appointed to manager of operations. . . . New generators with "Maxi-Watt" power are announced by *Wincharger Corporation*, Sioux City, Iowa.

"Commando" Belt Light

Here is the new "Commando" Life Saver Belt Light — Model 285 — a practical, high quality light especially designed for use in interior fire fighting and in rescue work. For complete details, write to Koehler Manufacturing Company, Marlboro, Massachusetts.

●

M. L. Snyder & Son, Inc., Philadelphia, Pennsylvania, has purchased *National Fire Protection Company* of West Chester, Pennsylvania, a fire extinguisher recharging service. . . . Another change has been made with the purchase of "Buckeye" fire department equipment by *Machine Products Corporation* of Dayton, Ohio. The equipment previously was made and sold by the *"Buckeye" Iron and Brass Works. . . Scott Aviation Corporation* has announced the promotion of Lyman E. Jordan to its Board of Directors. A frequent visitor to fire service meetings, Jordan has headed the company's industrial sales efforts since 1950. Also moving up was Robert J. Brewer, promoted to Assistant Commercial Sales Manager of *Scott* in Lancaster. He will be responsible for sales efforts of the company's industrial safety and fire equipment distributors in the United States and Canada.

A special kit to suppress ignition interference on two-way mobile radio systems has been developed by *Hallett Manufacturing Company*, 5910 Bowcroft Street, Los Angeles 16, California. Shielding is accomplished at the sources of interference — distributor, coil, spark plugs, and high tension leads. The kits are available for all makes and models of automotive, marine, and industrial engines. Write to the manufacturer for more details. . . . A free 12-page illustrated bulletin, "Paint Your Way to Fire Safety," is available from *Albi Manufacturing Company, Inc.*, Rockville, Connecticut. It discusses the relative merits of applying conventional decorative paints and fire-retardant paint and explains Underwriters' Laboratories' flame-spread ratings. . . . *Motorola Communications & Electronics, Inc.*, has named Wallace P. Miller as Manager of Two-Way Radio Sales for the Midwestern states. In his new capacity, Miller supervises the sale of two-way mobile radio products to public safety, transportation, commercial and industrial organizations throughout a 13-state area extending from Ohio to North and South Dakota. . . . A new chief engineer of *Ward LaFrance Truck Corporation*, Elmira, New York, is Ricardo H. Vergara. He will direct engineering activities for all of the corporation's divisions. . . *FWD Corporation*, Clintonville, Wisconsin, has appointed *AAA Fire Extinguisher & Equipment Company*, Glendale, Arizona, as a new dealer. . . . A new 4-page folder describing its entire line of gasoline-driven electric generating plants is available free from *D. W. Onan & Sons Inc.*, Minneapolis 14, Minnesota.

PUMPER
For Sale

1946 Ford chassis, 500 gpm Central Fire Truck Corp. pumper in A-1 condition — complete with ladders, suction hose, fire axes, pike pole, C-6 Federal siren, two booster reels with hose and nozzles and 400 gallon tank — new engine in 1957 — new pump in 1953 — two-speed rear axle.

PRICE $3000

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FOR SALE
1949 MACK and 1950 SEAGRAVE PUMPERS

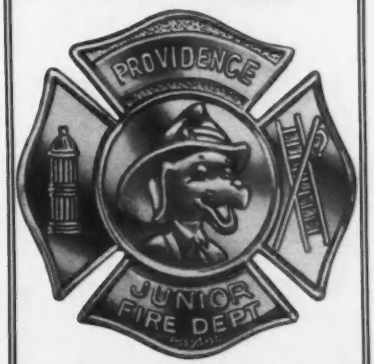
Sealed bids will be received until 2:00 p.m. June 5, 1960 for the sale of one 1949 Mack fire truck with Hale 500 gpm pump and 200 gallon booster tank and one 1950 Seagrave fire truck with 750 Seagrave pump and 150 gallon booster tank with standard equipment. List of equipment on each truck upon request. Both trucks are still in service and can be seen until bids are accepted.

Bids to be plainly marked "Bid on Fire Truck" and addressed to:

Tuxedo-Cheverly Vol. Fire Co., Inc.
5711 Tuxedo Rd., Tuxedo, Hyattsville P.O., Md.

We reserve the right to reject any or all bids.

NEW!
YOUR FIRE DEPARTMENT'S BADGE FOR YOUNGSTERS!



Size 1⅝" diameter, with clasp

Now you can have your department name on a first quality, low-priced fire fighter's badge for "Juniors." These authentic-looking badges are metal, coated with gleaming, long-lasting nickel and rhodium that does not tarnish.

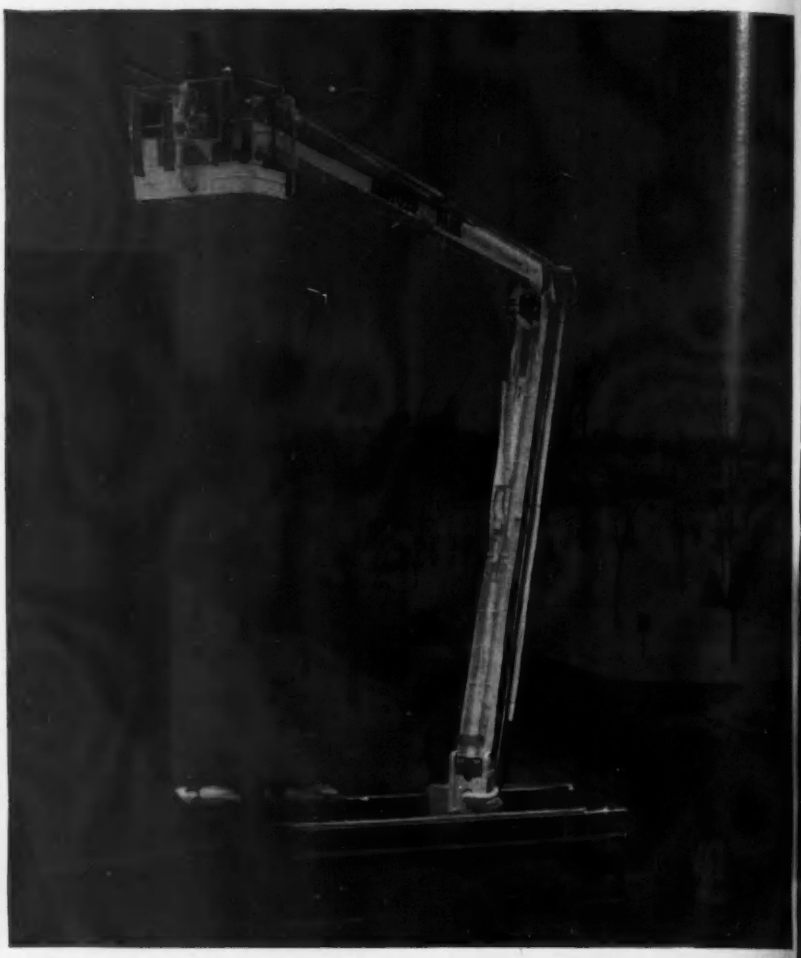
20c each in lots of 144
plus postage
Special prices for larger quantities

Standard "Sparky's Fire Dept." badges are 15c each in dozen lots plus postage.

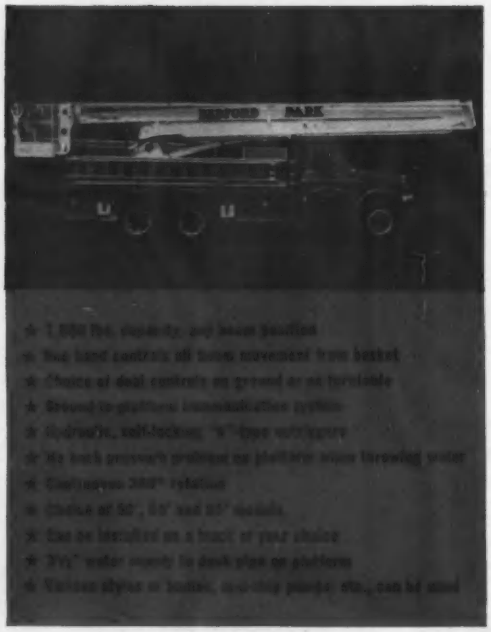
Prepare for your Spring and Fall Campaigns

For sample badge, send 20c to
ROBERTS CO.
BOX 444D WAYLAND, MASS.

Why the Village of Bedford Park bought this



65-foot PITMAN SNORKEL



Incorporated in the Village of Bedford Park, Illinois, are a number of major industrial installations. Vast tank farms nearby store everything from benzine to molasses. Chief Gil Husch and his 18-man department have fought fire there—as well as in buildings of four or five stories—under very hazardous conditions.

"We need the reach of that seven-story Snorkel," says Chief Husch. "It puts our men up high—or way back in, over low-rise structures, to lay fog and water right at the source of fire . . . no matter where it is.

"Our men are volunteers, and good ones," Husch asserts, "but they're also my friends and neighbors. I want to make sure they get back in good shape—every time." When Chief Husch saw the Chicago Fire Department's Snorkel No. 1 in action, he knew Bedford Park had to have one as well!

John Hapke, Superintendent of Public Works, agreed . . . and the Village's Snorkel was purchased jointly by his Department and that of Chief Husch. It's based at the Fire Station, of course, and there's no question of priority. But in its "spare time," this Snorkel also trims trees, maintains the street lighting system, puts men and materials aloft wherever there's work to be done. The "Bedford Park Plan" has worked well. Perhaps a similar approach could help provide *your* community with the finest fire-fighting equipment of all—a Pitman Snorkel. For full details, write . . .

Snorkel **FIRE EQUIPMENT COMPANY**
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Under certain conditions a custom apparatus may be desired.

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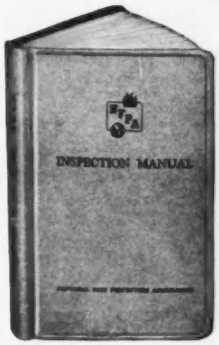
Operation School Burning. The official report of the Los Angeles Fire Department on the school fire tests conducted in Los Angeles, April–June 1959. These tests, the first extensive full-scale fire tests devoted exclusively to life safety from fire, present new and valuable data as to the spread of smoke, sprinkler performance, operation of fusible link devices and many other fire safety features. Provides factual data on 55 fire tests which call for a complete re-evaluation of preconceived concepts of life safety. Cloth bound (6 x 9 in.), 270 pages, illustrated. **$4.75**



NFPA Inspection Manual. A pocket manual for property owners, fire departments and inspection offices of insurance companies, central managements and governments. Particularly helpful to beginners and equally useful to experienced inspectors. Covers inspection procedures, heating hazards, inspection of protective equipment, what "approval" means, methods of making plans and reports and much other valuable information (1959). Cloth bound, 4¼ x 6½ in., 320 pages, illustrated. **$4.00**

Research on Fire. A survey of research on fire providing a description of the facilities, personnel and management of thirty-nine agencies in the U.S.A. and sixteen in other countries which are engaged in fire research. An adequate picture of the kinds of work going on is presented. Cloth bound, 6 x 9 in., 184 pages, 100 illustrations, 1957. **$5.00**

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